



TRADE SECRETS

OR PRACTICAL HINTS.


OVER
600 RARE AND VALUABLE RECEIPTS.

FOR

Gold and Silver Plating, Nickel Plating, Soldering Tempering, Plating with Gold Amalgam, Copper Plate Etching, Silvering Glass, Mending Celluloid, Cleansing Silverware or Brass, Etching on Glass, Silvering Mixture, Refining Gold, Soldering Tortoise Shell, Silver Solution for Electrotypes, Polishing Tortoise Shell, Enameling, Drilling Glass, Restoring the Color of Gold after Soldering, Gold Lacquer, Varnishes, Cements, Soap, Perfumery, Paints, Removing Stains, Coloring or Dying Silks, Feathers, Woolen or Cotton goods, Cure for Footrot in Sheep, Scratches or Greased Heal on Horses, etc., etc. And many other valuable recipes, the ingredients of which can be had of any druggist.

*Any infringement in reprinting this book
will be prosecuted to the full extent
of the law.*

Entered according to Act of Congress, in the year
1883, by John G. Vickers, in the office the Librarian
of Congress at Washington. All rights reserved.





TRADE SECRETS;

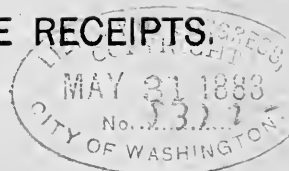
OR

PRACTICAL HINTS

OVER

600 RARE AND VALUABLE RECEIPTS.

FOR



Gold and Silver Plating, Nickel Plating, Soldering Tempering, Plating with
Gold Amalgam, Copper Plate Etching, Silvering Glass, Mending Cellu-
loid, Cleansing Silverware or Brass, Etching on Glass, Silvering
Mixture, Refining Gold, Soldering Tortoise Shell, Silver
Solution for Eletrotype, Polishing Tortoise Shell,
Enameling, Drilling Glass, Restoring the
Color of Gold after Soldering,
Gold Laquer, Varnishes,
Cements, Soap,
Perfumery,
Paints, Removing Stains, Coloring or Dying Silks, Feathers, Woolen or Cotton
goods, Cure for Footrot in Sheep, Scratches or Greased Heal on
Horses, etc., etc. And many other valuable
receipts, the ingredients of which
can be had of any
druggist.

STANLEY

TX153
V63

TRADE SECRETS.

SILVERSMITHS' AND PLATERS' DEPARTMENT.

To Remove Soft Solder from Jewelry.—Green copperas, 2 oz.; saltpeter, 1 oz.; water, 10 oz. Reduce the two salts each to a fine powder; add them to the water and boil in a cast-iron pan for some time; then set aside to cool. Take the crystals, by pouring off the liquid, and dissolve 1 ounce of them in 8 ozs. of muriatic acid or in that proportion. To use, take 1 oz. of this solution and add to it 4 ozs. of boiling water in a glass or porcelain dish, and boil the articles in it. In a short time, the worst cases of soft solder will be entirely freed from the article, without change in the color of the work. This process is recommended for all qualities of gold work, and also for silver goods.

Reviver of Old Jewelry.—Dissolve sal-amoniack in urine, and put the jewelry in it for a short time; take it out and rub with chamois leather, and it will appear as bright as new.

Nitrate of Silver.—Silver coin, 3 oz.; nitric acid, 2 oz.; dilute with water, 4 oz.; heat by a sand-bath until ebullition ceases and the water is expelled, then pour into molds and keep from the light.

To Copper the Surface of Iron Wire, or Iron, Steel, etc., take rain water, $1\frac{1}{2}$ gal., sulphate of copper, $\frac{1}{2}$ lb. First have the article perfectly clean, then wash with the above solution.

Gold Lacuer.—Put into a clean four gallon tin, one-half pound of ground turmeric, three-fourths of an

ounce of gamboge, one and three-fourth pounds of powdered gum sandarach, one-half pound of shellac, and one gallon of spirits of wine. Shake until dissolved, then strain, and add one-half pint of turpentine varnish, well mixed.

Very Fine Bronze for Brass.—One-half pound muriatic acid, one-fourth pound white arsenic; dissolve in an earthen vessel, and proceed as in the usual way.

To Polish Steel.—Take crocus of oxide of tin, and graduate it, and apply it to the steel by means of a piece of soft iron, or bell metal, applied with flour of emery. The German mode of polishing steel is performed by the use of crocus on a buff wheel. Nothing can exceed the surpassing beauty imparted by steel, or even cast iron, by this process.

Soap for Jewelers.—English silver soap, (with which silver articles, with the use of brushes, can be very handsomely cleaned), is manufactured by heating one part ordinary white soap with one part water, until a glutinous fluid is produced; three parts washed chalk are stirred in, and the mass is left to solidify.

Dressing off Coins for Engraving.—Take a round stick, about the size of a chair rung, for dimes, and a piece of an old broom-stick for quarters, half-dollars, etc., and cut or saw about six inches long; put some shellac or ceiling wax on the flat end; with the blow-pipe melt it well; now place the article upon it and blow a blaze again upon the dime until it becomes cemented to the end of the stick; let it cool when you can file with the coarsest file, or polish on the lathe without the article coming off; be careful not to file too hard, as heating in filing would make it slip. Dampen with cold water.

To Clean Watch Brushes wash them in water impregnated with soda.

Imitation Silver.—Silver, 3 oz; nickel 1 oz. and 11 pwts.; copper, 2 oz. 9 pwts.; spelter, 10 pwts.

Gold Plating Without a Battery.—Take a two-and-a-half gold piece and put it into a mixture of 1 oz. nitric acid and 4 oz. muriatic acid, use a glass vessel; when it is all cut, dissolve one-half oz. of sulphate of potash in 1 pint of pure rain water, and mix with the gold solution, stirring well; then let settle, and wash the gold until no acid is tasted, by touching the tongue to the gold. Now dissolve 1 oz. cyanide, of potassium in one pint of pure rain water, to which add the gold, and it is ready for use. Clean the article to be plated, well, and then suspend it in the solution with a small strip of zinc.

Silver Plating Without a Battery is done the same as gold plating, except you use silver coin, and salt instead of cyanide of Potassium; add salt until the silver will deposit on the article to be plated, which is all that is required.

To Reduce Hair Springs.—Immerse the spring a few seconds in nitric acid, 3 or 4 drops to 1 teaspoon-full of water. By this way you can reduce them to any extent; after washing and drying the spring it should be dipped in oil.

Soft Soldering Fluid.—Take a small phial and fill it half full of Muriatic acid, add all the zinc it will dissolve, then add about one-half as much rain-water as there is acid, and it is ready for use.

True Imitation of Gold.—It not only resembles gold in color, but also in specific gravity and ductility. Platinum, 16 parts; copper, 7 parts; zinc, 1 part; put in a crucible, cover with charcoal powder, and melt into a mass.

Best Imitation Silver Known.—Copper, $\frac{1}{4}$ oz.; brass, 2 ozs.; coin silver (pure silver is better) 3 ozs.; bismuth, 2 ozs.; saltpetre, 2 ozs.; common salt, 1 oz.; arsenic, 1 oz.; potash, 1 oz.; melt in a crucible with powdered charcoal. This compound was used by a German chemist for unlawful purposes, and it was so perfect that he was never discovered.

Green Gold.—Take gold 1 oz. 10 dwts; saltpetre; 1 oz. 4 dwts sal-ammoniac; 1 oz. 4 dwts; verdigris, 18 dwts.

Silver Solder—Easy Flowing—Three dwt. coin silver; 1 dwt. sheet brass. Melt the silver alone with borax; have the brass cut in narrow strips, and the silver in a molten state; then drop in the brass; shake it until the brass is mixed with the silver; and just before taking off, add a small piece of zinc about the size of your little finger nail. This solder flows easy; it will stand chilling in the pickle and retain its toughness; is white enough to use on the finest of silver, and is suitable for all kinds of jobbing.

Gold Solder.—Instead of reducing the quality of your gold with copper, silver, or brass, use the silver solder, made in the above way. Say 3 parts gold to 1 part of silver solder for fine work, but for ordinary work I take about equal parts coin and silver solder. This makes a very easy running solder. It matters not if the work is to be bright or colored, it always comes out satisfactory, and for repairing, it beats the world. I have used the above solders for over eight years, and never found them wanting.

Gold Varnish—Very Fine.—Dissolve seedlack, sandarach, mustic, of each 4 parts; gamboge, 1 part; dragon's blood, $\frac{1}{2}$ part; white turpentine, 3 parts; termeric, 2 parts; bruised with alcohol, 60 parts.

Polishing Powder for Gold and Silver.—Rock alum, calcined and finely pulverized, 5 parts; powdered chalk, 1 part; mix and apply with a dry brush or soft rag; this is splendid for show cases.

Silvering Small Iron Articles.—Suspend them in diluted sulphuric acid until the iron shows a bright, clean surface. After rinsing in pure water they are placed in a bath of a mixed solution of sulphate of zinc, sulphate of copper and cyanide of potassium, of about equal parts, and there remain until they receive a bright coating of brass. Then they are transferred to a bath of nitrate of silver, cyanide of potassium, and sulphate of soda, in which they quickly receive a coating of silver.

Ornamental Designs on Gold and Silver.—Sketch on the silver a monogram, or any other design, with a sharp lead pencil, then place the article in a gold solution, with the battery in good order, and in a short time all the parts not sketched with the pencil will be covered with gold. The black lead is easily removed by the fingers, and the silver ornament disclosed. A gold ornament may be produced by reversing the process.

Easy Flowing Gold Solder.—*Five Karet*—Two and a half dwt. gold coin, five dwt. silver coin, two and a half dwt. copper, one quarter dwt. brass. *Eight Karet*—Nine and a half dwt. gold coin, eleven and a half dwt. silver coin, five dwt. copper, one-half pwt. brass. *Eleven Karet*—five dwt. gold coin, three dwt. silver coin, one-half dwt. copper and one-fourth dwt, zinc.

Albata Metal.—Nickel, 4 parts; copper, 20 parts zinc, 16 parts.

To obtain a pure color on articles gilt by galvanism, add the point of a knife full of bicarbonate

of soda, and a clear and handsome gilding will be obtained. Keep the solution well filtered.

To Whiten Iron.—To render iron as white, and as beautiful as silver, take ammonia cal salt in powder, and mix it with an equal quantity of quick lime. Dissolve in cold water and mix well. When done, immerse the red-heated article in this bath, and it will become as white as silver. Do not burn the article by overheating.

Sweaty Hands.—Immerse your hands in freshly drawn well or spring water, and leave them therein until chilled. The evil of perspiring hands may thus be removed in about two weeks. The gentleman who recommends the above treatment says, that he has handled polished steel on the hottest summer day since, without even leaving the imprint of his fingers thereon.

Soft Solder.—Pure tin, two parts; lead, one part. Melt and mix well together, and roll into sheets for use.

To Electro Plate Soft Solder.—Take nitric acid, 2 oz.; water, 4 oz.; copper, 2 oz.; in small flat pieces. When the copper has all dissolved, the solution is ready for use. To apply it, take up a few drops by means of a camel-hair brush, and apply it to the desired part, then touch it with a bright piece of steel, and there will be instantaneously a film of copper deposited. If the copper has not spread all over the desired part, the process should be repeated when deposition in the plating bath will take place, with perfect success. A good mixture for effecting the same result, may be made by dissolving verdigris in vinegar.

Testing Silver Wares.—Take nitric acid, 3 oz.; water, 1 oz.; bichromate of potash, $\frac{1}{2}$ oz. Reduce the

potash to a powder, and mix it well with the acid and water. Use the solution cold, and place in a stoppered glass bottle. Rub a file over some obscure part of the surface, and apply the liquid to that part. If the article is silver there will appear a clean blood red mark. Upon platinum the test liquid has no action. On German silver a brown mark appears; on Britannia metal a black mark is produced.

Modelling Wax.—1 pound white wax; $\frac{1}{2}$ oz. turpentine; $\frac{1}{2}$ oz. hogs lard; $1\frac{1}{2}$ oz. zinnabar; $\frac{1}{2}$ oz. white lead.

A Splendid Varnish for dials of clocks, watches, etc., may be prepared by dissolving bleached shellac in the purest alcohol. It affords the same resistance to atmospheric influence that common shellac does, when used as a coating on brass.

Protecting Silverware from Tarnishing.—Tarnishing may completely be prevented by first heating the ware, and afterward anointing it with a coating of collodion, thinly diluted with alcohol, laid on with a camel's hair brush. This coating dries at once and forms a very thin, transparent film, which completely protects the silver, and which, if necessary, is quickly removed by hot water. This method is much used in English silverware stores to protect the ware against tarnishing.

To Stain Horn Black.—Immerse it in a cold prepared solution of 120 parts mercury; 120 parts nitric acid; and 500 parts water; rinse it well, after 12 hours; and put it for an hour or two into a solution of 15 parts sulphurate of potash, and 500 parts water; next rinse. To give horn a dark color, polish it with tin ashes and oil.

Varnish for Writing on Glass, may be made of 500 grains ether; 30 grains sandarac, and 30 grains

mustic. Dissolve and add benzine until the varnish imparts to glass a roughened appearance; use cold.

Drilling Glass—Make a three cornered drill, not too pointed. Turn slowly, keep it well flooded with spirits of turpentine containing as much camphor as it will dissolve; drill from both sides of the glass, be careful when the point comes through, and finish the hole with a file flooded like the drill.

Gold Color Upon Brass.—To color brass gold color dip it after having been polished bright, into a diluted solution of neutral acetate of copper, which, however, must contain no free acid.

To Frost Watch Movements.—Put the article to be frosted, for a few minutes in a solution of nitric and muriatic acids and salt, equal parts.

To Make Ivory Flexible Speedily—Immerse it in a solution of phosphoric acid until it partly or entirely loses its opacity; then wash it in pure cold water, and dry. In this condition it becomes as flexible as leather, but gradually hardens when exposed to dry air. An immersion in hot water also destroys its softness and flexibility. The following also may be used: lay the ivory in 3 ounces of nitric acid, diluted with 15 ounces of water. The ivory will be soft in three or four days.

To Make Gold Plating Powders.—Prepare a chloride of gold, the same as for plating with a battery. Add to it, when thoroughly washed out, cyanide of potassium in the proportion of two ounces, to five pennyweights of gold. Pour in a pint of clear rain water, shake up well and then let stand till the chloride is dissolved, add then one pound of prepared Spanish whiting, and let evaporate in the air till dry. To apply, make the powder into a

paste with water, and rub it upon the surface with a chamois skin.

Black Enamel for Gold Rolled Plate, Etc.—Take half a pennyweight of silver, two pennyweights and a half of copper, three and a half pennyweights of lead, and two and a half pennyweights muriate of ammonia. Melt together and pour into a crucible, with twice as much pulverized sulphur; the crucible is then covered, that the sulphur may not take fire, and the mixture is to be calcined over a fire until the superfluous sulphur is burned away; the compound is then coarsely pounded, and with a solution of muriate of ammonia, to be formed into a paste which is to be placed upon the article to be enameled; the article must then be heated till the compound melts and flows.

Solution for Cleansing Brass Chains.—Sulphuric acid, $4\frac{1}{2}$ ounces; nitric acid, 2 ounces; rain water, 4 ounces; saltpetre, 2 drams; put all together in a glass bottle, and let stand for 5 hours, then use as a dip; then at once wash off and rinse in clear rain water, or running water then dry in sawdust. The above gives the article a perfectly bright appearance.

Frosting Silver Jewelry—Sulphuric acid, 1 gill; clear rain water, 1 pint; heat the pickle and immerse the silver until frosted as desired if it does not frost fast enough, add more sulphuric acid, if too fast add more water.

Pickle for Cleansing Etruscan Silver Jewelry—Sulphuric acid one-half gill; clear rain water, half pint; heat the article to be cleansed red hot, be careful not to melt it, and plunge into the pickle. I find it best to heat the article upon a peice of pumice stone by gas. Be careful not to smoke it,

and it will become as white as new. You can repeat the operation several times.

Silver Plating Without a Battery, No. 2.—

In a glass vessel put one ounce nitrate of silver, 2 ounces Cyanide potassium, 4 ounces of prepared Spanish whiting, and about 10 ounces of distilled water, or pure rain water. Rub on with white canton flannel.

For Making Steel Very Hard.—Take say, two teaspoonfuls of water, one half teaspoonful of flour, and one of salt, heat the steel, to be hardened, to coat it with the paste by immersing it in the composition, after which heat it to a cherry red and plunge it in cold soft water. It is said, that stubb files are hardened in this manner.

Enameling.—Pulverize the enamel in a stone mortar. After it is reduced to a fine powder, put enough water or alcohol to make a paste, put the enamel into such parts as you wish to enamel. Dry carefully and thoroughly before putting heat to it. Enamellers have a furnace made expressly to enamel. After the article to be enameled is prepared, it is put into the furnace and the enamel melted. So that it flows into and fills all the lines &c. For small articles jewelers melt the enamel by means of an alcohol lamp, blowing the blaze upon the work with a blow pipe. Enamel of all kinds can be had of material dealers.

Silver Plating Fluid.—Dissolve 1 ounce nitrate of silver in crystals in 12 ounces soft water, then dissolve in the water 2 ounces cyanide of potash, shake the whole together and let stand until it becomes clear. Have ready some $\frac{1}{2}$ ounce vials, and fill half full of fine whiting, and then fill up the bottles with the liquor and it is ready for use.

To Repair the Dial of a Watch.—Take a

little pure spermaceti, melt it with white of silver, and carefully fill the injury; rub it smooth with a linen rag, and finish with silk paper. Spermaceti is better for the purpose than white wax.

To Remove Stains from Statuary Marble.

Take equal parts of fresh oil of vitrol and lemon juice; shake up these substances very thoroughly; wet the spots with the mixture and in a few minutes rub with a soft linen cloth, and the spots will be found to have entirely disappeared.

To Whiten Silver Articles.—Boil them in a solution of one part of cream of tartar, two parts salt and fifty parts rain water until they assume a fine unpolished white.

Covering Small Pieces of Steel with Brass.

Plunge them in a solution of six grammes of Sulphate of copper and six grammes of chloride of tin, in a quart of clear soft rain water.

Soldering Fluid that does not occasion rust, is prepared in the following manner: Small pieces of zinc are immersed in muriatic acid, and left in it until the acid is saturated with it, which may be known by the cessation of ebullition of the acid, and also by the zinc, added after that stage, being left undissolved. Add spirite of ammonia, about one third the quantity of the acid thin with a like quantity of rain water. If at the time adding the zinc, the muriatic acid is heated a little, the zinc will dissolve sooner. This fluid does not cause rust on iron, or steel, and is excellent for all purpose, even for tinning.

Zincing Copper or Brass.—Make a strong solution of chloride of zinc, and put the article with pure zinc turnings into it and boil, add plenty of the turnings.

To Remove The dark spots in watch-cases, pour a drop of oil of turpentine, on the part affected; let it remain a few moments, and wipe it off rubbing them with a rag dipped in the oil, will effect the same thing.

To Etruscanize Gold Jewelry.—Pulverized alum, one tablespoon full, and the same amount of fine table-salt, powderd Salpêter, 2 tablespoons full. Boiling rain water, sufficient to make the solution when dissolved the consistency of thick soap suds, then add sufficient muriatic acid, to produce the color desired. No jewelry under 14 K. can be successfully treated with the above. Fine etruscan jewelry that has become smooth from wear may be perfectly renewed by the same process.

Bringing Gold back to its Original Color after Soldering.—Heat the article almost red hot and plunge into diluted sulphuric acid. (About 1 gill of acid to 3 gills of clear water.) Take it out of the acid and wash, then polish with pumice stone, wash again and finish with rouge. I find pumicestone much better than rotten stone, as it is quicker and does the work better. Mix it with water.

A Bronze for all Metals.—Salammoniac, 2 dr.; oxalic acid, one-half dr.; vinegar, one-half pint. Dissolve the oxalic acid first. The work must be clean; put on with a brush; repeat the operation if necessary.

Gold Varnish.—Turmeric, one-half dram; gamboge, one-half dram; turpentine, 1 pint; shellac, two and one-half oz.; sandarach, two and one-half oz.; 4 dr. dragons blood; four oz. mustic varnish. Let stand from 12 to 15 days. Shake occasionally.

Deep Gold Lacquer.—Seed-lac, one and one-half oz. ; lumerick one-half oz. ; dragons blood, one dram ; alcohol, one-half pint. Let it stand for 6 days. Shaking it frequently, then strain.

To Blacken Clock Hands.—Asphaltum varnish, apply with a brush. I have used this for years ; it makes them look like new.

Jewelers German Cement.—Put into a bottle 2 ounces of isinglass, and 1 ounce of the best gum-arabic ; cover them with proof spirits. Cork loosely, and place the bottle in a vessel of water, and boil it till a thorough solution is affected ; then strain for use. Best cement in the world.

Brittle Gold.—Gold should be melted over charcoal, or coke, and if of low grade, should not be exposed to the heat too long. If it continues to be brittle melt the second time, add a little salpeter, and a little later some borax. Stir well, and add a little salammoniac just before pouring it out. In forging gold it must be annealed as often as it begins to get hard and brittle. Low grade gold needs annealing oftener than finer gold. Bichloride of mercury (corrosive sublimate) is used also for making gold malleable.

Bending Glass Tubes.—Fill the tube with finely sifted sand, close both ends, and heat it over a flame ; it may thus easily be bent without losing its roundness at the elbow.

Cleaning Solution for Clocks.—Get a tin bucket with a close-fitting cover, and large enough to take any clock movement ; pour in of the fluid until it stands about two inches deep ; then with a brush and rag remove as much of the old oil and dust as possible. Take away the verge, wind up the springs, and lay the movement into the bath, and as it runs

down shake it about smartly. In less than two minutes the works may be taken out quite as clean as they came from the factory. Shake off the benzine, and gently tap the movement on the floor to get all the liquid you can from the springs. Let the pivots become perfectly dry before oiling. In marine movements take out the lever and balance, and put them also in the bath. I have lately substituted gasoline for benzine, which I think is even preferable and cheaper, being only 10 to 15 cents per gallon. One of the advantages of either benzine or gasoline over alcohol is that they never loosen jewels in roller or lever, and have a fine effect upon all steel parts, especially pinions gummed up with old oil and dirt. Get the deodorized if you can.

To Remove Quick Silver from Rings or Jewelry.—Heat the article gradually, and it will entirely evaporate; it should never be left on gold for any length of time, as it makes gold brittle and spoils its appearance.

Eighteen Karat Gold for Rings, &c.—To gold coin, 24 grs. (or one dollar gold piece), add 4 grs. pure copper, pure silver $1\frac{3}{4}$ grs.

To Make Sixteen Karat Gold.—Take 17 grs. gold, 5 grs. copper, and 2 grs. silver.

To Make about Fourteen Karat Gold.—Take one dollar piece, and add 12 grains pure copper, and 6 grains silver.

To Make Soft Solder Flow very Easy.—Add a few drops of mercury, melt the solder and add the mercury, and stir for a few seconds; then pour out and it is ready for use.

To Make German Silver.—Melt together, 25 parts copper, 15 parts zinc, and 10 parts nickel.

Yellow Enamel.—Red lead, 8 ounces, oxide of antimony and tin, calcined together, of each 1 ounce; mix and add of flux No. 5, 15 ounces; mix well and fuse.

Blue Enamel.—White frit, or flux, colored with oxide of cobalt.

Another Blue Enamel.—Sand, red lead and nitre, of each, five parts; flint glass or ground flints, 10 parts; oxide of cobalt, one half part, more or less, depending on the desired depth of color.

To Close Cracks in Coral.—Warm it very carefully, and with a pencil brush cover the crack with watch oil; when cool the seam will not show.

To Remove Soft Solder No. 2.—From work that is to be hard soldered, or colored, scrape off what you can with a scraper, then gently heat it so that you may shake or brush as much off as possible, then place it in spirits of salt (muratic acid) for some time. This receipt is useful where hard soldering is required, either in colored or bright work.

To Take Enamel out of Gold or Silver.—Take flour spar and pound it fine, cover the article well with it, then pour vitriol on sufficient to make a thin liquid, boil the article in this and the enamel will be removed.

Red Enamel.—Sulphate of iron reduced to powder by heat, 1 part, a mixture of 6 parts of flux No. 5, and 1 part colcothar, 3 parts. This makes a dark red.

Red No. 2.—Sulphate of iron, 2 parts; flux No. 1, 6 parts; white lead, 3 parts. This makes a light red.

Violet Enamel.—Purple enamel, 2 parts; red enamel, 3 parts; frit, 6 parts.

Rose Color Enamel.—Purple enamel, 3 parts; flux 90 parts; mix and add silver leaf or oxide of silver, 1 part, or to suit your fancy.

White Enamel.—Lead, 30 parts; tin, 33 parts; calcined. Then fuse 50 parts calcine, with an equal weight of flints in powder, and 100 parts of salt of tartar. A fine dead white enamel.

White, No. 2.—Washed diaphoretic antimony, 1 part; fine glass, (pure), 3 parts mix and pour the fused mass into clean water; again powder, and fuse and repeat the whole process three or four times. Keep from smoke, dirt, or oxide of iron.

Green Enamel.—Transparent flux, 5 ounces; black oxide of copper, 30 grains; oxide of chromium, 2 grains; this resembles the emerald. Another good green enamel is made from transparent frit, any quantity; oxide of chormium enough to color as desired.

Olive Enamel.—Blue enamel, 2 parts; black, 1 part; yellow enamel, 1 part.

Orange Enamel.—Red lead, 6 parts; oxide of antimony, 2 parts; flint powder $1\frac{1}{2}$ parts; red sulphate of iron $\frac{1}{2}$ part; calcine, then add flux, $2\frac{1}{2}$ parts, to every 1 part of this mixture.

Orange, No. 2.—Red lead, 6 ounces; red sulphate of iron, $\frac{1}{2}$ ounce; oxide of antimony, $\frac{1}{2}$ ounce; flint powder, $1\frac{1}{2}$ ounces; calcine together, powder and melt with flux 25 parts.

Purple Enamel.—Flux or frit, colored with oxide of gold, purple precipitate of cassins, or peroxide of manganese.

Yellow Enamel, No. 2.—Lead, 1 ounce; tin ashes, 1 ounce; litharge, 1 ounce; antimony and sand, 1 ounce of each; nitre, four ounces; mix, fuse

and powder and add the product to flux or frit, enough to reduce the color.

How to Regulate a Watch Quickly.—The following is a practical method for regulating a watch in a few minutes, also to put in a new balance spring, of the right size and regulated perfectly, in a watch without running it: First ascertain how many vibrations the watch beats in one minute, by counting every other vibration, and comparing that time with a well-known watch or regulator. In general, Swiss watches beat 18,000 in one hour, viz., 300 in one minute. American watches also, either 18,000 or 16,200, or 270 beats per minute, and the English lever 14,400, or 240 per minute. If there is any doubt, it is better to count up leaves and teeth and ascertain the right number, but cases that watches beat odd numbers are scarce. Having ascertained the right number, examine the balance carefully for one or two minutes, counting every vibration going from right to left and in the meantime examine the regulator or clock, to see when one minute is up. If the watch is well regulated, the number of vibrations must be exactly half of the regular first number, viz., 150, 135, or 120, as every other vibration has been recorded to facilitate the observation. If not so, move the regulator right or left until a perfect coincidence comes. To pick up a new balance spring after having recorded the right number of beats—either by the old spring or by the number of the train—lay first the spring with its center well in the center of the cock jewel, and having ascertained where the coil will enter between the curb pins of the regulator, note the place. Stick to the pivot of the balance a small round piece of beeswax; then stick it to the center of the spring,

so as to establish a temporary but firm connection of the two pieces, and having pinched with the tweezers the balance spring indicated by the regulator pins, cause it to vibrate gently; then count the vibrations for one minute, and when you have a spring that will produce nearly the required number of beats, pin it to the collet and cause it again to vibrate, moving the tweezers backward or forward until the right number of beats is produced; with another pair of tweezers pinch the balance spring about one-eighth of an inch back of the regulating point, so as to counterbalance the gain produced by the regulator pins, and bend the wire slightly, which is the place where the hair spring must be pinned to the stud. Having then trued up the spring, proceed to put the regulator to the right place, by using the way indicated in the beginning of this article, and the work is done. Success is certain when the operation has been carefully performed. The balance must be made to vibrate on some hard and well-polished substance, so as to keep up the vibration to about the standard of regular running. A little practice will soon enable the watchmaker to change a balance spring very quickly, and without any trouble whatever.

Valuable Diamond Test.—If the point of a needle or small hole in a card, when seen through the stone, appears double, the stone is not a diamond. All colorless gems, with the exception of the diamond, cause double refraction.

Varnish for Clocks.—It is often necessary to revarnish clock castings and other objects. We give a few recipes of easily-prepared varnishes.
Common Varnish.—16 parts mastic; 2 parts venetian turpentine; 24 parts sandarac; 120 parts alcohol.

Black Varnish.—20 parts alcohol; 1 part sandarac; 2 parts shellac; 1 part elemi; 1 part shellac; 1 part mastic; one part boneblack; 1 part venetian turpentine. *Red Varnish*.—50 parts alcohol; 1 part dragons blood; 4 parts venetian turpentine; 4 parts shellac; 8 parts mastic; 2 parts elemi. For a *Colorless Varnish*, use 1 part mastic; 2 parts bleached shellac; 2 parts sandarac, and 20 parts alcohol. The ingredients are put into a bottle and placed near a stove to facilitate their solution. When dissolved, filter through a fine cloth and it is ready for use.

Watches Losing Time.—Should a watch lose time from the action of the balance spring, pin the latter into the stud so that the part of the eye immediately emerging from the collet, and the center of the collet are in a line; then you will have the spring pinned in, in "equal terms", as it is called by those who are versed in the higher branches of springing. Bring the watch to time by adding to or taking from the balance, and poise it; try the watch with the 12 up for two hours; then with the 6 up for two hours, then lying down for the same time. The trials here described will be sufficient, if the watch has seconds; keep the curb pins close, so as to allow the spring only a little play; the vibration of the balance should be $1\frac{3}{4}$ turns, or $1\frac{1}{2}$ lying.

Molding Metals.—Plaster of Paris.—Is made hard enough for a mold for metal castings by the use of alum; dissolved in the water used for mixing the plaster.

Chain Running off Fusee.—In the first place ascertain the cause of the difficulty; if it results from the chain being too large, the only remedy is

a new chain; if not too large, and yet it runs off without any apparent cause, change it end for end, that will generally make it go all right. In cases where the channel in the fusee has been damaged and is rough, you will be under the necessity of dressing it over with a file of the proper size and shape. Sometimes you will find the chain naturally inclined to work away from the body of the fusee.

The best way to remedy a difficulty of this kind is to file off a very little from the outer lower edge of the chain for its entire length; this, as you will see, will incline to work it on instead of off. Some workmen, when they have a bad case, and a common watch, change the standing of the fusee so as to cause the winding end of its arbor to incline a little from the arbor. This, of course, can not do otherwise than make the chain run to its place.

Oride—How to Make.—Copper, 79.7 parts; zinc, 83.05; nickle, 6.09, with a trace of tin and iron.

Dissolving Silver from Silvered Articles.—

A pot of enameled cast iron is nearly filled with concentrated sulphuric acid, and the whole brought up to a temperature of from 150° to 200° C; then at the moment of using it, pinches of dry and pulverized salt petre are thrown into it, and the article held with a copper wire plunged into the liquid; the operation may be repeated after washing and drying thoroughly—As water would spoil it.

Oxidizing Silver.—Take 4 or 5 gramms per litre of hydro sulphate of ammonia, or preferably, of quintisulphide of potassium, (liver of sulphur), are added to ordinary soft water, brought up to a temperature of 70° to 80° C. As soon as the articles are dipped into this solution, they become covered with

an iridescent pellicle of silver sulphide, which, after a few seconds more in the liquid, become blue black. The article is then removed from the water, rinsed, scratch-brushed, and burnished when so desired. As far as practicable, immediately use the freshly prepared liquors, otherwise the prolonged heat will precipitate too much sulphur, and the deposit will be wanting in adherence.

Essence for Cleaning Watches.—The following composition, the ingredients of which may be obtained in any drug store, will produce a brilliant surface on either gilding or brass: Take 90 weight parts of refined petroleum, and 25 parts of sulphuric ether. The object is immersed for several minutes, in fact they may remain for a longer period without danger, and on removal from the bath are found to be clean and bright. It must not be forgotten that this essence is liable to ignite with the proximity of a lighted lamp.

Remove Gold From Silver.—Gold is taken from the surface of silver by spreading over it a paste made of pulverized salammuniac with aquafortis and heating it till the latter smokes and is nearly dry, when the gold may be separated by rubbing it with a scratch brush.

Cement For Glass and Metals.—Litharge, 2 parts; white lead, 1 part; boiled linseed oil, 3 parts; gum copal, 1 part; mix just before using. This forms a quickly drying and secure cement.

To Prepare Chalk.—Pulverize the chalk thoroughly and then mix it with clean rain water. Stir well, and then let it stand about two minutes. In this time the gritty matter will have settled to the bottom. Slowly pour the water into another vessel, so as not to stir up the sediment. Let stand

until entirely settled to the bottom, and then pour off as before. The settlings in the second vessel will be prepared chalk, ready for use as soon as dried. Spanish whiting treated in the same way, makes a very good cleaning or polishing powder. Some watchmakers add a little crocus, and we think it an improvement; it gives the powder a nice color.

Writing Inscriptions on Metals.—Take one-fourth pound nitric acid, and one ounce muriatic acid, mix, shake well together, and it is ready for use. Cover the place you wish to mark with melted beeswax; when cold, write your inscription plainly in the wax, clear to the metal, using a sharp instrument; then apply the mixed acid with a feather, carefully filling each letter. Let it remain from 1 to 10 minutes, according to appearance desired; then throw on water, which stops the process, and remove the wax.

Etching Fluids for Copper.—Aquafortis, 2 ounces; water, 5 ounces. For steel, sodine, 1 ounce; iron, $\frac{1}{2}$ drs.; water, 4 ounces. Digest till the iron is dissolved. For fine touches, dissolve 4 parts each of verdigris, marine salt, and salammoniac, in 8 parts vinegar, add 16 parts water, boil for one or two minutes, and let cool.

Gum for Backing Labels.—Mix pure dextrine with boiling water, until it assumes the consistency of ordinary mucilage. Apply with a full, evenly made camel's hair brush. The paper should not be too thin or unsized.

Ruby Pin.—If it is necessary to tighten a ruby pin set in asphaltum varnish, It will become harder in a few minutes and be much finer and better than gum shellac.

Tempering Brass.—Brass is rendered hard by hammering or rolling, therefore, when you make a thing of brass, necessary to be tempered, prepare the material before shaping the article. Temper may be drawn from brass by heating it to a cherry red and plunging it into water.

To Prevent Rust.—Cast iron is best preserved by rubbing it with black lead. For polished work, varnish with wax dissolved in benzine, or add a little olive oil to copal varnish, and thin with spirits of turpentine. To remove deep seated rust, use benzine, and polish with fine emery, or use tri-poli, 2 parts; pulverized sulphur, 1 part; apply with soft leather. Emery and oil is also good.

Celluloid from Potatoes. For this purpose the peeled potatoes are boiled for 36 hours, in a fluid consisting of 8 parts sulphuric acid, and 100 parts water; then dried between blotting paper, and relieved of the superfluous water by pressing.

Silvering Mixture.—Dissolve 2 ounces silver with 3 grains corrosive sublimate; add tartaric, 4 pounds and 8 quarts salt.

Paste for Cleaning Metals.—One part oxalic acid, 6 parts rotten stone, mix with equal parts train oil and spirits of turpentine to a paste.

Molding Sand for Brass or Iron.—Sands employed for casting iron or brass have been found to be almost uniform in chemical composition, varying in grain or the aggregate form only. It contains 93 and 96 part silex or grains of sand, and from 4 to 6 parts clay, and a little oxide of iron, in each 100 parts. Molding sand which contains lime, magnesia, and other oxide of metals is not applicable, particularly for the casting of iron or brass. Such sand is either too close, will not stand or retain

its form, or will permit the metal to boil through its closeness.

Melting and Refining Gold.—In melting gold urge the fire to a great heat, and stir the metal with the long stem of a tobacco pipe, to prevent honeycombing. If steel or iron filings get into the gold, throw in a piece of sandiver the size of a common nut; it will attract the iron or steel from the gold into the flux, or sublimate of mercury will destroy the iron or steel. Never melt gold with anything but gas or charcoal fires. To cause it to roll well, add a teaspoonful of sal ammoniac and charcoal, equal quantities, both pulverized. Stir well for two or three minutes.

Cleaning Pearls —Boil the pearls for about one-quarter of an hour in fresh cows milk, in which soap has been dissolved; then take them and rinse them in clean water, and dry with a clean, white cloth. If the desired results have not been obtained, repeat the operation several times. Should they still not become white, try the following: Form a small loaf of bread in which the pearls are laid, either strung upon a silk thread or loosely wrapped in a piece of gauze; then bake the bread pretty strong, not too brown; let it cool; break it and take out the pearls; which will generally be found handsomely white. If the above should be insufficient, and the pearls are still yellow, take a cup full of well-heated wine vinegar, and suspend the pearls, hung upon a silk thread, or wrapped in a piece of gauze, in it for a few minutes. Also, sulphuric acid, diluted with its equal quantity of water may be used; rinse them well in clean water, and repeat operation until they have become white. This remedy will never fail, except the pearls were naturally yellow, from which there is no help.

Improved Process in Etching Glass.—First, put the drawing upon the object, either by hand, transfer or direct printing, with almost any oil or varnish, mixed with a little color, to render it visible; then powder it by means of a brush, or tuft of cotton, with pulverized metal, copal, or such similar substance—what is commercially known as “bronze powder,” is very suitable for the purpose; dry it, then dip it into fluoric acid; or that may be also put on with a brush, if desirable. After a few seconds the powder begins to peel off, then wash it in water; it is not necessary to remove the printing color, the fluoric acid destroying it; it comes off in the water.

Polishing Powder.—An excellent polishing powder for gold and silver consists of burnt and finely pulverized rock alum, 5 parts; levigated chalk, 1 part; mix and apply with a dry brush.

Engravers' Border Wax.—Beeswax 1 part; pitch 2 parts; tallow 1 part; mix.

Engraver's Cement.—Resin, 1 part; brick-dust; 1 part; mix with heat.

Soldering Tortoise Shells.—Bring the edges of the pieces of shell to fit each other, observing to give the same inclination of grain to each, then secure them in a piece of paper, and place them between hot irons, or pinchers; apply pressure and then cool. The heat must not be so great as to burn the shell, therefore, try it first on a white piece of paper.

Silvering Powder.—Nitrate of silver and common salt, 30 grains of each; cream of tartar, $3\frac{1}{2}$ drachms; pulverize finely and bottle for use. Unequalled for polishing powder for plated goods.

To Polish Steel.—No. 2.—Take crocus of tin oxide and graduate it, in the same way as preparing

diamond dust, and apply it to the steel by means of a piece of soft iron or bell metal, made in proper form, and prepared with flour of emery; same as for pivot burnishers; use coarsest of the crocus first, and finish off with the finest. To iron or soft steel, a better finish may be given by burnishing than can be imparted by the use of polishing powder. Another method of polishing steel is by the use of crocus on a buff wheel. Nothing can exceed the surpassing beauty imparted to steel, or even cast iron by this process.

To Clean Silver.—Put two ounces of finely powdered Paris White into an eight-ounce bottle, and put in six ounces of aqua ammonia, and shake well. Wet a soft cloth with this mixture and rub it over your silver; let it dry and polish with a piece of Canton flannel. This is as good as any cleaning mixture you can get, and costs but little.

To Temper a Drill Very Hard.—Heat the drill to a cherry red and quench it in mercury, and it will drill hardened steel, or cut glass about as good as a diamond.

To Soften Cast-Iron for Drilling—Heat to a cherry red, having it lie level in the fire; then with a pair of cold tongs put on a piece of brimstone, a little less in size than the hole is to be when drilled, and it softens entirely through the piece; let it lie in the fire until a little cool, when it is ready for drilling.

To Tin Copper Stew Dishes.—Wash the surface of the article to be tinned with sulphuric acid, and rub the surface well, so as to have it smooth and free of blackness, caused by the acid; then sprinkle calcined and finely pulverized sal-amoniack upon the

surface, holding it over a fire, when it will be sufficiently hot to melt a bar of solder, which is to be rubbed over the surface; any copper dish or vessel may be tinned in this way.

To Tin Iron for Soldering.—Take any quantity of muriatic acid, and dissolve all the zinc in it that it will cut; dilute it with one-fourth as much soft water as of acid, and it is ready for use. Rub this liquid on iron; and, no matter how rusty it may be, it will brighten it up so that solder will readily adhere to it.

To Clean Chamos.—Make a weak solution of soda and warm water, rub plenty of soft soap into the leather, and allow it to remain in soak for two hours; then rub it well until it is quite clean. Afterwards rinse it well in a weak solution of warm water, soda and yellow soap. It must not be rinsed in water only, for then it would be so hard, when dry, as to be unfit for use. It is the very small quantity of soap left in the leather that allows the finer particles or fibers of the leather to separate and become soft like silk. After rinsing, wring it well in a rough towel and dry quickly; then pull it about and brush it well, and it will become softer than most new leathers.

Transparent Blue for Steel.—Damar varnish, one pint; finely pulverized Prussian blue, $\frac{1}{4}$ oz.; mix thoroughly. This makes a splendid appearance, excellent for bluing watch hands, screw heads, steel spectacles, etc.

Rust Proof Bronze—Consists of nickel 100 parts; tin, 10 parts; platinum, 1 part.

Cleaning Gild Surfaces.—Take one ounce powder borax, too one pint of rain water, dissolve the borax and boil for one minute. Rub gently (when cool),

then rinse with pure water, dry in sawdust or a soft linen rag.

Simple Receipt for Silvering.—Chloride of silver with equal parts of fine table salt and cream of tartar, transforming it into a thin paste by adding water if necessary. The article to be silvered, first well wash with a hot soda solution and soap, it is then rinsed thoroughly in hot water, wash again with pumice powder, after which it is rinsed in running water, and before drying it is coated with finely pulverized table salt, so that the article is covered with a thin layer thereof; a little of the silver paste is next rubbed on, then quickly rub on a little cream of tartar, which is also to be applied in the same way, then wash. This coating is handsome and as white as snow.

Recovering Gold from Coloring Bath.—Dissolve a handful of sulphate of iron in boiling water, and add it to your "color" water; it precipitates the small particles of gold. Now draw off the water, being very careful not to disturb the auriferous sediment at the bottom. You will now proceed to wash the sediment from all trace of acid with plenty of boiling water; it will require three or four separate washings, with sufficient time between each to allow the water to cool and the sediment to settle before passing off the water. Then dry in an iron vessel by the fire and finally fuse in a crucible with borax and saltpeter for a flux.

Silvering Solution for Electrottype Plates.—Nitrate of silver, 2 drs.; distilled water, 37 drs.; dissolve and add salammonica, 1 dr.; hydrophosphite of soda, 4 drs.; precipitated chalk, 4 drs.; agitate the preparation occasionally for twelve hours, when it will be ready for use. Apply with a sponge.

To Clean Brass.—Rub the surface of the metal with rotten stone and sweet oil, then rub off with a piece of cotton flannel, and polish with soft leather. A solution of oxalic acid rubbed over tarnished brass soon removes the tarnish, rendering the metal bright. The acid must be washed off with water, and the brass rubbed with whiting and a chamois leather. A mixture of muratic acid and alum dissolved in water imparts a golden color to brass articles steeped in it for a few seconds.

To Remove Tin from Gold.—Just previous to pouring the gold, throw a small piece of corrosive sublimate into the pot, stir well with a long piece of pointed charcoal, or shake the crucible with the tongs, and allow the pot to remain on the fire about one minute afterward. This will take out the tin; gold containing tin will not roll without cracking.

To Remove Emery or Steel Filings From Gold.—Add a small piece of glass-gall while melting; it will collect them in the flux.

Repairing Cylinder Watches.—It frequently happens that the cylinder edges are worn off, and it does not pay to put in a new cylinder; the watch may, nevertheless, be put into keeping a good rate by altering the escapement. Look at the cylinder and see if there is room either above or below the old wears to shift the action of the wheel, if the wheel holes are of brass; make one a little deeper, and put a shallower one on the other side; this may perhaps be sufficient. This must be done according as you want your wheel, up or down. If the holes are stone, shift your wheel on the pinion by a new collet, or turning away more of the old one, as the case may require. If you raise your wheel, see that it works free of the plate and top of the

cylinder, and that the web of the wheel clears the top of the passage. This last fault may be altered by polishing the passage a little wider, if the rub is slight. If shifted downward, see to the freedom at the bottom of the cylinder, etc.

Aluminum Silver.—An excellent alloy of fine luster and polish consists of copper, 70 parts; nickel, 23 parts; aluminum, 7 parts.

To Prevent Silver from Oxidizing or Tools Rusting.—The rusting of bright steel tools is due to the precipitation of moisture from the air. It may be obviated by keeping the air surrounding the goods dry. A saucer of powdered quick lime in an ordinary show case will usually suffice to prevent the oxidizing of silver ware exhibited therein.

Cleaning Silverware.—Hypo-Sulphurous soda is one of the simplest and best cleansing agents known for silverware. It operates quickly and is cheap. A brush moistened with the saturated solution of the salt cleans, without the use of cleaning powder, strongly oxidized silver surfaces within a few seconds.

Jeweler's Cement.—Isinglass soaked in water and dissolved in spirits, 2 oz., (thick); dissolve in this 10 grains of very pale gum ammonia, (in tears), by rubbing them together; then add six large tears of gum mastic, dissolved in the least possible quantity of rectified spirits. When carefully prepared, this cement resists moisture and dries colorless. Keep in a closely stopped vial.

To Clean Brass.—This method is in use in all the U. S. Arsenals, and claimed to be the best in the world: Make a mixture of one part common nitric acid in a stone jar, having also ready a pail of fresh water and a box of sawdust; the articles to

be treated are dipped in the acid, then thrown into the water, and finally rubbed with sawdust. If the brass has become greasy, it is first dipped in a strong solution of potash and soda in warm water; this cuts the grease so that the acid has power to act.

Glass for Coating Metals.—The following method has been used for coating metal surfaces with glass. Take about 125 parts, by weight, of ordinary flint glass fragments, 20 parts of carbonate of soda, and 12 parts borax and melt. Pour the fused mass out on some cold surface, as of stone or metal, and pulverize when cooled off. Make a mixture of this powder with silicate of soda (water glass) 50° B. With this coat the metal to be glazed, and heat in a muffle or other furnace until it has fused. This coating will adhere very firmly to steel or iron.

To Whiten Silver Watch Dials.—Flatten a piece of charcoal by rubbing it on a flat stone; on this place the dial, face upward; apply a gentle heat carefully with a blowpipe, allowing the flame to play all over the surface of the dial without touching it, so as to thoroughly heat without warping the dial, then plunge into a pickle consisting of one part sulphuric acid, and a little water, or acid enough to make the water very tart, and immersing but for a few seconds.

Magic Polish for Brass.—Add to sulphuric acid half its bulk of pulverized bichromate of potash dilute with an equal amount of water, and apply well to the brass; immediately swell it well in water, wipe dry, polish with pulverized rotten stone.

Drilling Holes in Cast Iron Steel.—Use carbolic acid, with the ordinary drill. There is nothing better.

Black Varnish for Iron—Asphaltum, 1 pound; lamp black and resin, $\frac{1}{2}$ pound each; spirits turpentine, 1 quart; linseed oil, just sufficient to rub up the lamp black before mixing it with the others. Apply with a camel's hair brush.

Lustring.—In order to give articles a handsome lustrous surface, they are dipped for one or two seconds, while moving them constantly to and fro, in a mixture, prepared at least on the previous evening, consisting of nitric acid 36°, 100 parts by volume; sulphuric acid 66°, 100 parts by volume; table salt, 1 part by volume. After having been taken out of this bath, the articles must again be well rinsed in plenty of clean water. The nitric acid must always be put first into the vessel intended for its reception, as the sulphuric acid would remain on the bottom without mixing.

Metal Letters on Plate Glass.—Use the following binder: Copal varnish, 15 parts; drying oil, 5 parts; turpentine, 3 parts; oil of turpentine, 2 parts; liquefide, 5 parts. Melt in a water bath and 10 parts slacked lime.

Protecting Stones When Hard Soldering.—Take a small crucible and fill it with sand; when you wish to solder a ring, wet the sand, cut a piece of charcoal that will fit inside of the ring; now put the ring upon the charcoal "finger," put the head of the ring in the sand, let the charcoal project about half an inch each side of the ring, then lay a piece of charcoal upon the crucible so as the edge will be against the ring where you want to solder. Put your borax and solder on where you wish it to flow, and blow the blaze sharp and quick. It needs practice and common sense. I have used this receipt for 10 years and never spoiled a stone.

Drills.—For Jeweler's use are best hardened in oil or sealing wax, when strongly heated red hot. Beeswax is also good.

For Oil Stone.—Use $\frac{2}{3}$ petroleum and $\frac{1}{3}$ oil; mix; the stone is always in working order, and it never becomes oil soaked, or gets too hard by using the above.

To Make Nickel or Cobalt Malleable.—Add $\frac{1}{2}$ per cent. metallic magnesium through a hole in the cover of the crucible.

Excellent Paste for Cleaning Metals—Is made of equal parts of benzine and saturated oxalic acid solution, mixed with powdered rotten stone, to the consistency of thin paste; keep covered tight when not in use.

When Articles already soldered require a re-soldering, and it is necessary to keep this from running, which is best effected by a coating of dampened crocus or Persian red, care being taken, however, not to bring it too closely to the edge of the fracture, thus hindering the solder from flowing.

Soldering Cast Iron—Is generally considered to be very difficult, but it is only a question of thoroughly making bright the surface to be soldered, and using good solder and a clean swab with muriatic acid.

Turkish Cement.—Put 1 oz. of isinglass and $\frac{1}{2}$ oz. of the best gum-arabic into a bottle, cover them with proof spirits, and cork loosely, then place the bottle in a vessel of water and boil it till a thorough solution is effected, then strain for use.

Hardening Pinions.—The steel parts to be tempered are first heated upon charcoal, in the customary manner, then annointed with ordinary washing soap; heated to cherry red, and quickly immerse in petro-

leum. Steel articles heated in this manner do not warp, no matter how thin, and remain almost entirely white.

Crocus, dried, and powdered, when applied with Chamois leather to nickel-plated goods, will restore their brilliancy without injuring their surface.

NAMES OF DIFFERENT PARTS OF THE WATCH MOVEMENT FOR BEGINNERS.

Winding Arbor.—The post on which the key is placed to wind the watch.

Anchor.—A piece of the escapement used in clocks and lever watches. A detached lever is often called an anchor escapement.

Barrel.—The wheel which contains the main spring.

Bridge.—A piece secured to the plate, in which a pivot works.

Balance Wheel.—That wheel which moves back and forth.

Beat.—Each tick of the watch.

Click.—A small lever or spring which works into a ratchet and prevents the sudden recoil of the main spring after the watch is wound up.

Center Wheel.—The large wheel in the center of the watch.

Chick.—A small pin; which hold the bridges in position.

Dial Wheels.—Those working between the dial and pillar plate.

Escapement.—Those pieces in the watch or clock which work together and regulates the velocity of the train.

Fork.—That part of the lever into which the ruby pin plays.

Fly or Fan.—An arbor carrying two wings or fans for the purpose of meeting with atmospheric resistance, and thus regulating the motion of striking trains in clocks.

Hour Wheel.—The wheel working around the cannon and upon which the hour hand is fastened.

Gearing.—The action of the teeth of one wheel upon those of another wheel.

Guard Point.—The wedged-shaped elevation immediately back of the fork in detached levers.

Minute Wheel.—The wheel which is driven by the cannon pinion.

Pallets.—The jeweled piece of the lever watch, which works into the teeth of the scape wheel.

Roller.—The circular plate into which the ruby pin is set, sometimes called the ruby pin table.

Ruby Pin.—A small glass or stone pin which works in connection with the lever.

Ratchet.—A steel wheel into which the click works.

Pillar Plate.—The bottom plate of a watch ; some watchmakers call both pillar plates, distinguishing them as upper and lower.

Jewel.—The stone or glass settings through or against which the pivots work ; also the settings in the pallets and the roller.

Collet.—A small ring fitting on the balance staff or arbor, and holding the inside end of the hair-spring.

Dial.—The face of a clock or watch.

Cock.—The bridge over the balance wheel.

Canon.—The steel piece which comes up through the dial, around which the hour wheel revolves. In American levers the minute hand is fastened upon it.

Cylinder.—The hollow piece which checks the onward motion of the scape wheel in cylinder escapement watches.

Cannon Pinion.—The pinion at the lower end of the cannon, which moves the minute wheel.

Fusee.—The cone shaped wheel upon which the chain works in English lever watches.

Scape Wheel.—The last wheel of the train.

Pivot.—The end of an arbor turned very small.

Fourth Wheel.—The wheel that in ordinary watches, works into the scape wheel.

Arbor.—An axel which turns upon itself by means of its pivots.

Staff.—A name generally given to the balance arbor of lever watches.

Pinions.—A small leaved wheel.

Leaves.—Teeth or cogs of a pinion.

Index.—Hand.

Lever.—A horizontal bar upon which the pallets are secured, and which conducts the effect of the motive power from the train to the balance.

Pillars.—Posts which in plate watches hold the plates the proper distance apart for the working of the train or trains between them.

Teeth.—Cogs by which the motion of one wheel is communicated to another.

Train.—A collection of wheels so arranged that the moving power applied to the first wheel is freely communicated to them all.

Wheel Bead.—A bead turned out in a watch to receive a wheel.

Third Wheel.—The wheel into whose pinion the center wheel works.

Nuts are often so tightly rusted upon screws that other means must be made use of to loosen them; kerosene or naphtha will in a short time penetrate between the nut and stem. Turpentine is also very good to loosen nuts rusted as above.

Cleansing Ivory Ornaments.—Ivory ornaments are quickly cleaned by brushing them with a new but not a very sharp tooth brush, to which a little soap is used; then rinse the ornaments in luke-warm water; next dry and brush a little with alcohol; should it become a little yellow dry it in a gentle heat and it will appear as if new.

To Make Plaster Paris Figures Look Like Bronze.— $2\frac{1}{2}$ ozs. palm soap; $\frac{3}{4}$ oz. sulphate of copper, and $\frac{3}{4}$ oz. of sulphate of iron. Dissolve the soap in rain water in one vessel and the sulphates in another; put together and let settle, then pour off the water. Dry the precipitate and apply to the figure by mixing as a paint with linseed oil and turpentine.

To Prepare a Gold Solution Without Acids.—Dissolve 2 ozs. Cyanide of Potassium in $\frac{1}{2}$ gallon of pure rain or distilled water; set this solution on a gas or oil stove and keep it hot, (not boiling) then place a clean porous cup or cell in it, and fill the cell a little over half full with the solution. Now take a \$1 gold piece or a \$2.50 gold piece and roll or hammer it out about as thin as heavy writing paper; then have a piece of pure copper, the size of your gold, to which is fastened the wire

from the zinc plate of a battery ; (or what is called the positive pole) let the copper plate be about half immersed in the cell, fasten the gold (by copper wire) to the wire running from the platina of the battery, (or what is called the negative pole) and let it hang immersed nearly one-half in the solution outside of the cell, thus the current will dissolve the gold on the negative pole and the solutions take it up, while the porous cell prevents it from plating on the copper. Dissolve copper the same way ; one-half of a \$1 gold piece and about one-half the amount of copper. Dissolved in the above solution makes a very nice color for watch cases and rings ; add as much water as has evaporated, and also a little Cyanide ; filter through paper, by the aid of a glass funnel, and your solution is ready for use.

How to Keep the Silver Solution in Order.

—By watching the anodes the operator will acquire valuable indications in regard to the bath. Thus should the anodes become *black* during the passage of the electric current, it is a sure proof that the solution contains too little Cyanide of potassium and too much silver. In this case the deposit is entirely too slow and the bath loses more silver than it can gain from the anodes ; you must add, with precaution, Cyanide of potassium. If, on the other hand, the anodes remain *white* during the current, the proportion of Cyanide of potassium is too great, the deposited silver is often without adherence, and the anodes lose more metal than is deposited. The remedy consists in adding the silver salt until it dissolves with difficulty. Everything is in good working order when the anodes become *gray* during the passage of the electricity, and *white* when the circuit is broken.

Solution for Cleaning Watches.—Use benzine. You need not wash the articles in anything else after taking from the bath. There is nothing that can leave them in a better condition. Let them remain in the bath from three to five minutes. As you take each piece out, and before it has time to dry, use a clean brush, dampened by a touch of the tongue, and apply slightly to chalk, and the best results will follow.

How to Make Neutral Terchloride of Gold.—This very important salt, used so much in gilding and galvanoplasty, is only successfully made by the observance of the utmost care. It is obvious that persons wishing to make small quantities may do so by reducing the amount of gold and the size of the parts of measures. To reduce one ounce of gold, you shall want one thin bohemian glass beaker, lipped for pouring, of about 8 oz. size; one glazed porcelain evaporating dish, holding 10 oz.; one glass funnel; and the best Swedish or French filtering paper, and a glass rod; the vessels must be perfectly clean, and distilled or very clean rain water used. Take one ounce of nitric acid and pour it into the beaker, and into the same pour 3 ounces of hydrochloric acid. Place the beaker on a sand bath, (an oil or gas stove will do), and light. While the acid is getting hot, weigh out one ounce of gold coin, rolled as thin as you can conveniently get it. When the acid is hot, put in the gold in small quantities. Heavy brown fumes will arise as the gold dissolves, and appear to flow over the sides of the beaker; a violent action will also be observed, resembling the boiling of the liquid. If this becomes too violent, and threatens to throw out spurts of acid, lower the gas and put in less quantities of gold. Soon the acid will become less turbulent, and change its golden

color to a redder tint, but continue to add gold until the last little fragment refuses to dissolve. Then prepare the filter, by inserting a cone of filtering paper in a glass funnel, and placing that in the filter stand above the evaporating dish; moisten the paper with a little water, and then pour the gold solution from the beaker into the filter, and allow it to trickle slowly into the dish below. If any gray powder or white grains remain at the bottom of the beaker, it may be osmium or iridium, whilst the white powder is chloride of silver. In this way these metals can be separated from gold, and an alloy of gold and silver parted, for only the gold enter into the solution. The dish containing the solution is now to be placed in the sand bath, and heat applied to drive off the excess acid by evaporation. When this has proceeded until the liquid assumes a reddish brown tint, and becomes thick, it will require some care and attention to complete the operation. It must be frequently stirred with a glass rod; care must be taken not to overheat it, and as it thickens and darkens put on a pair of thick gloves (rubber or leather) take the dish in the hand and frequently turn around to make the liquid flow around its sides and crystalize there. By thus turning it about all the liquid will finally crystalize in a ruby mass, and now the operation is complete. If too much heat is applied, the crystals will assume a brown bronze hue, lose their chlorine, and metallic gold will be reduced on the sides of the capsule or dish. If this happens, a brown powder will be found after the crystals have been dissolved in water, and this may be treated with aqua regid as before.

The Hardest Steel May be incised easily if the engraving tool is dipped into a solution of two parts of petroleum with one part of turpentine.

Writing on Silver.—To write on silver, the tracing of which will never fade, take burnt lead and pulverize it; incorporate it with sulphur and vinegar to the consistency of paint, and write with it on silver plate. Let it dry, then hold it to the fire so as to heat the work a little, and it is complete.

Cementing Silver on Marble.—Glue a piece of paper on the marble, then glue the silver on to the paper, it will stick for years.

Bronze For Brass or Iron.—Chrome green, 1 lb.; ivory black, $\frac{1}{2}$ ounce; chrome yellow, $\frac{1}{2}$ ounce; Japan, $\frac{1}{2}$ gill; grind together and mix with linseed oil.

Green Bronze.—Wine vinegar, 1 qt.; verditer green, 1 oz.; salamoniac, $\frac{1}{2}$ oz.; salt, 1 oz.; alum, $\frac{1}{4}$ oz.; French berries, 4 oz.; boil all together for 10 minutes, use as a dip while hot.

Ivory that has become yellow may be bleached in the following manner: The article is placed under a glass together with a small quantity of chloride of lime, and muriatic acid, and expose it to sun-light; and the article will be restored to its original lustre.

Cement.—Take clean glass, powder it very fine and pass it through a silken seive, rub this on a marble slab with the white of an egg, and add glass to thicken sufficiently. It is an extremely tenacious cement, and the parts will never separate again. Good for porcelain, glass, china, &c.

To Remove Bluing from Steel.—Immerse for a few moments in a pickle of equal parts muriatic acid and elixir vitrol. Rinse in clean water and dry in warm sawdust.

To Case-Harden Iron.—Heat to a bright red in a crucible, pour in enough powdered cyanide of potash to cover it; let it remain five or six seconds,

and then turn out into rain water. It will polish up equal to steel and be quite as hard.

Nickel Plating—Nickel deposited by the wet way is whitish with a slightly yellow tinge. Its dead lustre is dull and pearl gray, and is easily obtained by dissolving the nitrate of nickel in its own weight of ammonia, and diluting the whole with 20 or 30 times its volume of liquid bisulphite of soda, making about 24° B. The baths should be a double salts of nickel, such as double sulphates or hydrochlorates of nickel and ammonia. It is considered necessary for the success of the operation to have neutral baths, and salts of a perfectly constant composition. The baths are like ordinary electroplating baths, with separate batteries and soluble anodes of nickel plate. The operation lasts about 12 hours for ordinary sized articles.

Other Nickel Baths.—A solution of nitrate of nickel, without excess of acid, is precipitated by Cyanide of potassium, and the precipitated re-dissolved by more Cyanide. *An acid solution* of nickel may be precipitated by alkalies, such as potassa, soda, or ammonia, and after washing the precipitated it is dissolved in Cyanide of potassium.

Nickel Plating Without Battery.—Into the plating vessel, which may be of porcelain, though copper is preferred, is placed a concentrated solution of zinc chloride, which is then diluted with from one to two volumes of water, and heat to boiling. (If any precipitate separates, it is to be re-dissolved by adding a few drops of hydrochloric acid.) As much powdered zinc, as can be taken on the point of a knife, is thrown in, by which the vessel becomes covered internally with a coating of zinc. The nickel salt, for which purpose either the

chloride or sulphate may be used, is then added, until the liquid is distinctly green; and the articles to be plated, previously thoroughly cleaned, are introduced, together with some zinc fragments. The boiling is continued for fifteen minutes. When the coating of nickel is completed, the articles are well washed with water and polished; if a thicker coating be desired, the operation may be repeated. Wrought and cast iron, copper, brass, zinc and lead have been successfully plated by this process. It is only necessary that the articles be covered entirely by the solution, and the surface thoroughly cleaned.

To Make Gold Amalgam.—Take sixteen parts gold and two parts mercury, form into an amalgam, for plating, by rendering the gold into thin plates, making it red hot, and then putting it into the mercury while the latter is also heated. The gold immediately disappears in combination with mercury, after which the mixture may be set in water to cool, when it is ready for use.

To Plate With Gold Amalgam.—The article to be plated is washed over with diluted nitric acid or potash lye and prepared chalk. After having been polished perfectly bright the amalgam is applied as evenly as possible, usually with a fine scratch brush. It is then set upon a grate over a charcoal fire, or placed into an oven and heated to that degree at which mercury evaporates. The gold, when the mercury has evaporated, presents a dull yellow color. Cover it with a coating of pulverized nitre and alum, in equal parts. Mix to a paste with water, and heat again till it is thoroughly melted, then plunge into water. Then burnish with a steel or bloodstone burnisher.

Splendid Powder for Silvering.—Add to 1 ounce molten zinc, the same quantity of mercury, grind or pulverize, and then add $7\frac{1}{2}$ ounces artificial horn. When a metal is rubbed with this powder it takes at once the appearance of silver.

Copper Plate Etching with Chromic Acid. Copper can be engraved more easily and with cleaner cut edges by this receipt than any other known: 800 parts hot water, 150 parts bichromate of potasseum, 350 parts sulphuric acid, at 60° . The liquid thus obtained is not so dangerous as those usually employed. Cover the copper with the usual coating of wax and proceed as according to usual method.

Glue Which Will Unite Polished Steel.—Dissolve five or six bits of gum mastic, each the size of a large pea, in as much alcohol, as will suffice to render it liquid; in another vessel, dissolve in brandy as much isinglass, previously softened in water, as will make a two ounce vial of strong glue, adding two small bits of gum ammoniac, which must be rubbed until dissolved. Then mix the whole with heat; keep the vial closely stopped; when it is to be used, sit the vial in boiling water.

Copper Solder for Filling.—16 dwt. fine silver 2 dwt. fine copper, 2 dwt. fine brass.

To Color Brass Black.—Make a mixture of 4 parts of hydrchloric acid, and 1 part of arsenic, apply it to the cleaned brass surface till the required black coating is produced, then wash it off, dry thoroughly and give it a coat of good lacquer.

To Remove Rust.—If you immerse the article in kerosene oil and let them remain for some time, the rust will become so much loosened that it will come off easily.

Good Cement for Lathes.—Good resin, 3 parts ; beeswax, 1 part ; plaster paris one part ; melt, mix and draw into rolls.

To Temper Gravers and other instruments larger than drills, may be tempered in quicksilver ; or you may take lead, instead of quicksilver. Cut down into the lead, say half an inch, then having heated your instrument, to a light cherry red, press it firmly into the cut. The lead will melt around it and an excellent temper will be imparted.

Phosphorescent Powders.—Phosphorescent powders can be prepared as follows : 10 oz. of carbonate and phosphate of lime (obtained by calcining oyster shells and sepia bones) are mixed with 10 oz. caustic lime ; $2\frac{1}{2}$ oz. chloride of sodium calcined, are then added, and 20 to 25 per cent. of the weight of sulphur, 3 to 7 per cent. sulphide of calcium, barium, strontium, or magnesium, which has previously been exposed to sunlight.

To Make Bronze Malleable.—Add to it from $\frac{1}{2}$ to 2 per cent mercury.

A Good Cement for Glass, and one which completely resists the solvent action of water, may be prepared by the following process : From five to ten parts of pure dry gelatine are dissolved in one hundred parts of water. To the solution about ten per cent. of a concentrated solution of bichromate of potash is added, and the liquid is kept in the dark. When articles joined by this cement are exposed to the light the gelatine film is acted upon by the chemical rays, the chromate being partially reduced, and the film of the cement becomes tough and durable.

How to Dissolve Shellac.—Put in any suitable vessel the desired quantity of shellac ; place this in

another large vessel containing hot water, and pour upon it rather more than enough boiling water to cover it; now take liquid ammonia and pour in slowly but steadily, and stir the melted shellac till dissolved. If too much ammonia is poured in, the solution will be very dark and spoiled; if too little, it will not be sufficiently dissolved. The natural color of the shellac ought to be preserved. When cold it must be filtered, and is ready for use, and will keep for any length of time.

Silvering Glass.—Solution 1. Nitrate of silver, 1 ounce; water, 10 ounces. Solution 2. Caustic potash, 1 ounce; water, 10 ounces. Solution 3. Glucose, one-half ounce; water, 10 ounces. The above quantities are those estimated for 250 square inches of surface. Add ammonia to solution No. 1 till turbidity first produced is just cleared. Now add No. 2 solution, and again ammonia to clear; then a little solution, drop by drop, till the appearance is decidedly turbid again. Then add No. 3 solution, and apply to the clean glass surface. A film was obtained in forty-three minutes, at a temperature of 56° F.

How to Give a Brown Tint to Steel.—Dissolve in four parts of water, two parts of crystalized chloride of iron, two parts of chlorido of antimony, one part gallic acid, and apply with a sponge or cloth, and dry in the air; apply and dry till the color attains the tint required and then rub well with oil. This is said to resist atmospheric moisture.

Mending Vulcanite Chains.—Watchmakers are often asked to mend the broken parts of vulcanite chains. If any attempt is made to open them cold, the link will in nine cases out of ten snap

especially stout ones; and if they do not break, the end spring opened, will not again close. Heating by candle or fire will burn them, but, if held over the chimney of a kerosene lamp, they will in a few seconds become so soft that you might pull them straight, and shut them up again or close as when new, without injury to shape or polish. Horn or tortoiseshell may be treated in the same manner.

Vulcanite, when placed in a bath of nitro-benzine, becomes, at the end of four or five weeks, soft and flexible, and may be fashioned into any design.

Soldering Steel.—It is well known by those engaged in metallurgy that much difficulty exists in soldering steel; it may be interesting to give the simple method, within the reach of all. The material used is pulverized white marble. The two pieces to be soldered are heated, and after being rolled in the marble dust they are quickly placed one on the other and hammered. The same method may be used for small articles.

To Mend Celluloid Jewelry —This is a very good receipt: Make a collodion by mixing 10 oz. ether, 1 oz. alcohol, 12 grs. gun cotton; color with red aniline, and apply as a cement. The above is very strong, and the same color as the celluloid. If it gets too thick put in more ether. Keep well corked or it will evaporate.

Soft Solder.—It is often very convenient, and in fact sometimes necessary, to have soft solder which will flow at different degrees of temperature. Many instances occur in which jobs cannot (in the country) be done by a professional jeweler, consequently the watchmaker is expected to do whatever nobody else can; and he must often run the risk of spoil-

ing work by subjecting it to too intense heat, whereas, if he had a little easy-flowing soft solder, there would be no danger. From the following table you can easily prepare such as you wish—if only a little of some of the sorts, it will be found convenient:

No.	1.	1	part	Tin,	25	Lead—Melts	at	580°	F.
2.	1	"	"	10	"	"	"	"	541
3.	1	"	"	5	"	"	"	"	511
4.	1	"	"	3	"	"	"	"	482
5.	1	"	"	2	"	"	"	"	441
6.	1	"	"	1	"	"	"	"	370
7.	1½	"	"	1	"	"	"	"	234
8.	2	"	"	1	"	"	"	"	310
9.	3	"	"	1	"	"	"	"	356
10.	4	"	"	1	"	"	"	"	365
11.	5	"	"	1	"	"	"	"	378
12.	6	"	"	1	"	"	"	"	381
13.	4	"	"	4	"	1 pt. Bism'th			320
14.	3	"	"	3	"	1	"	"	310
15.	2	"	"	2	"	1	"	"	292
16.	1	"	"	1	"	1	"	"	254
17.	1	"	"	2	"	2	"	"	236
18.	5	"	"	3	"	3	"	"	202

No 8 is the common tinsmith solder. No. 7 is the most fusible unless Bismuth be added. No. 18 will melt at 122°, by the addition of three parts of mercury. The most convenient form for using soft solder is to have it in wire. It is very easy to have it in that form; for when you have it melted in a ladle, in pouring it out on a flat iron or stone you must trail it—that is, draw your ladle along so as to flow out on the stone a thread of metal. With a little practice you cannot but succeed. Any of these alloys will flow with the ordinary soldering fluid.

Another convenience for soft soldering is not as much used as it might be, and would save injury to many a job; that is, a soldering iron, the same as a tinsmith's, only minuter. A piece of copper wire, an inch long, and one-fourth inch thick, filed away almost to a point with a wire handle about four inches long, terminated by a bit of wood or cork. In using, heat the copper in the lamp flame by laying it across something, to save time, and when hot enough to melt the solder, touch the end into your pickle, which will brighten it; then touch it to a bit of solder, and it will take it up. Then you can apply it at any point you wish, without heating the balance of the article in hand.

Solution for Producing High Brilliancy in Silver Work—Cream of tartar 30 parts, sea salt 30 parts, sulphate of alumine and potash 30 parts, water 1500 parts. Boil the article in this mixture.

Powder for Silvering.—Add to 1 oz. molten zinc the same quantity of mercury. Grind and then add $7\frac{1}{2}$ oz. artificial horn. When a metal is rubbed with this powder it takes at once the appearance of silver.

To Clean Silver.—Put 2 ounces of finely powered Paris white into an 8 ounce bottle, and put in 6 ounces of aqua ammonia and shake well. Wet a soft cloth with this mixture and rub it over your silver; let it dry and polish with a piece of canton flannel. This is as good as any cleaning mixture you can get and costs but little.

Grinding Glasses.—Provide two pieces of cork, one concave and one convex (which may be cut to shape after fitting to lathe). Take a copper coin or some other suitable article and soft solder a screw to fit the lathe, and then wax it to the cork; then

get a twenty-five-cent emery wheel, such as is used on sewing machines, and you have a complete outfit for cutting your watch-glasses. Polish the edge on the zinc collar of the emery wheel, or use a piece of zinc to do it. The other cork should be waxed to a penny and centred. The spectacle lenses may be cut on the same emery wheel, if the wheel is attached to a lathe so as to revolve. Another method is to take a common piece of window glass (green glass is the best), and make a grindstone of that, using the flat surface to grind on. Cement it on a large chuck, the glass being from 2 to 2.5 inches in diameter. Any one not familiar with this method would be surprised to see how fast the glass is cut away, for either spectacles or watches. In grinding watch-glasses put them flat on the chuck-glass, not on the edge.

Pearls will never tarnish or lose their brilliancy if kept in dry, common magnesia, instead of the cotton wool used by jewelers.

Liquid Foil for Silvering Glass Globes, etc.—Lead, 1 part; tin, 1 part; bismuth, 1 part; melt, and, just before it sets, add mercury, 10 parts. Pour this into the globe and turn it rapidly round.

Silvering Shells.—Silver leaf and gum water, a sufficient quantity; grind to a proper thickness, and cover the inside of the shells. For a *Gold Color*, grind up gold leaf with gum water, and apply to the inside of the shells.

Metal Snow Cases give jewelers a good deal of trouble in keeping them in anything like decent order. The best preparation we know of for keeping them bright is tripoli the kind that comes in lumps (can be had at Frasse & Co.) A pound of this will last a long time, and when properly pre-

pared will be found useful in a great many ways. It must be reduced to a fine powder mixed in water, and applied with a piece of chamois-skin, and allowed to dry, then clean off with a dry cloth or chamois-skin.

Silver Platters' Stripping Liquid.—Sulphuric acid, 8 parts; nitre, 1 part. Used to recover silver from old plated ware.

Silvering Ivory.—Immerse a small slip of ivory in a weak solution of nitrate of silver, and let it remain till the solution has given it a deep yellow color; then take it out, and immerse it in a tumbler of clear water, and expose it to the rays of the sun. In about three hours the ivory acquires a black color; but the black surface on being rubbed soon becomes changed to a brilliant silver.

Polishing Vulcanite.—Remove scratches with a smooth wet water of Ayr stone, and then polish in the lathe with fine pumice stone and a stiff brush. After washing the pumice off polish it with whiting and soft brush. The mathematical instrument makers treat it as brass; that is, for flat work they use water of Ayr stone, and then rottenstone and oil. Turned work is polished in the lathe with rottenstone and oil, taking care not to use too high a speed which would heat the work. Some use lampblack and oil to finish with where a very high polish is wanted, or on the bare palm of the hand, as in getting up silver plate. Chain and ornament makers use circular buffs for their flat work, made of sea-horse leather, and for work of irregular forms buffs of calico. A number of pieces twelve inches in diameter, are screwed together between flanges, like a circular saw spindle, and used with rotten stone, always taking care not to heat the work; brushes are not at all suitable for it.

MEDICAL DEPARTMENT.

A Cure for Dyptheria.—Mr. John S. Wise, a surgeon of Thorncomb, Dorset, writes to the London Times that, after two cases of malignant diptheria out of some nine or ten he had been called to attend had proved fatal, the mother of a sick child showed him an extract from an American paper concerning a practitioner who used sulphur to cure the decease. Accordingly he used milk of sulphur for infants, and flour of sulphur for older children and adults, brought to a creamy consistency with glycerine. Dose, a teaspoonful or more, according to the age, three or four times a day, swallowed slowly, and application of same to the nostrils with a sponge.

Result—He did not lose a case there or elsewhere, and he succeeded in saving life when the affection had almost blocked the throat.

Recipe for Making the Whiskers Grow.—Cologne, 2 oz.; liquid hartshorn, 1 drachm; tincture cantharides, 2 drachms; oil of rosemary, 12 drops; oil of nutmeg, 12 drops; oil of lavender, 12 drops.

Green Salve.—One quarter lb. lard; 1 oz. rosin; 1 oz. bees-wax; 1 drachm verdigris; melt and stir well. This is one of the best salves known for old sores, ulcers, cancers, scrofulous sores, cuts and wounds.

Arnica Liniment.—Two ozs. alcohol; 1 drachm tincture arnica. Unequaled for pains in the feet and limbs from walking; for all fresh or recent sprains, bruises or contused wounds, and for rheumatism of the joints and gouty pains.

Black Wash.—1 qt. lime water; 1 drachm calomel. To be used for foul and indolent ulcers; excellent to wash saddle sores on horses backs.

Bitters.—Take boneset, wild cherry bark and poplar bark; make an infusion by adding a quart of warm water; let it cool and drink when thirsty. This is a certain cure for fever and ague. I received it from an Indian, and found it to be the master of ague.

Aid for a Choked Person.—Dr. J. W. White gives these directions to save one who is choking: Force the mouth open with the handle of a knife or of a strong spoon; push the thumb and fingers deep down into the throat beyond the root of the tongue, and feel for the foreign body. If the obstruction cannot be grasped, a hairpin bent into a hook and guided by the left hand will often bring it out. If this fails, get some one to press against the front of the chest or support it against the edge of a table, and strike several hard, quick blows with the open hand on the back, between the shoulder-blades. Further treatment must be applied by a physician, who should have been immediately sent for.

For Cough.—Take one tablespoonful of molasses, two teaspoonfuls of castor oil, one teaspoonful of camphor, and one teaspoonful of paregoric; take half a teaspoonful frequently. This is of great service when children have symptoms of croup.

Poultice for a Fester.—Boil bread in lees of strong beer; apply the poultice in the common manner. This has saved many a limb from amputation.

For Cholera Morbus.—Take a chicken just killed, if possible; boil it in two or three quarts of water, and let the patient drink freely of the broth,

either with or without salt. It should be boiled several hours.

Certain Cure for Headache and all Neuralgic Pains.—To be applied as any other lotion: Opodeldoc, spirits of wine, sal ammoniac, equal parts.

A Simple Remedy for Burns is the white of an egg; it excludes the air, and is healing.

Nose Bleeding.—Roll up a piece of paper and press it up under the upper lip.

For a Sting.—Bind on the place a thick plaster of common salt or salæratuſ moistened; it will soon extract the venom.

Corns.—To cure corns take one measure of coal or gas tar, one of saltpetre and one of brown sugar; mix well. Take a piece of an old kid-glove and spread a plaster on it the size of the corn, and apply it to the part affected; bind on and leave for two or three days, and then remove, and the corn will come with it.

Hair Oil.—One pint alcohol, 2 oz. castor oil, a few drops of perfumery. Shake well to cut the oil. This is a splendid and nicely perfumed hair oil; it softens the hair, promotes its growth, and prevents it from falling out.

Toothache Drops.—One oz. alcohol, 2 drachms Cayenne, 1 oz. kerosene oil; let it stand 24 hours after mixing. It cures the worst toothache.

Earache.—Take a bit of cotton batting; put upon it a pinch of black pepper; gather it up and tie it; dip it in sweet oil, and insert it in the ear. Put a flannel bandage over the head to keep it warm. It will give immediate relief.

Hair Restorative.—One drachm of sugar of lead, 2 drachms lac sulphur, 8 oz. rose water; mix, and

shake every time it is used. Apply once a day for a week, and twice a week thereafter; this restores gray hair to its original color.

A Simple Hair Dye.—Boil in pint of water a handful of rosemary; when cold, strain and bottle, but do not cork it. Renew it every few weeks. Wet the hair with it every night.

To Whiten the Teeth.—Mix honey with finely powdered charcoal, and use the paste as a dentifrice. The juice of one lemon, a grated nutmeg, and a quart of gin, put in a bottle. Keep well corked.

Chilblains.—The intense itching of frosted feet may be relieved by dissolving a little alum in water and bathing the part affected with the solution. When you have chilled your fingers till they smart terribly, do not go near the fire, but wash your hands in snow, and you will be surprised to see how soon they will stop smarting. We have tried it.

To Remove Warts.—Dr. Guttceit recommends rubbing warts, night and morning, with a moistened piece of muriate of ammonia. They soften and dwindle away, leaving no such white mark as follows their dispersion with lunar caustic.

Magic Toothache Drops.—Chloroform, one part; oil of cloves, one part; spirits of camphor, two parts; mix, and apply to the decayed tooth on a bit of soft cotton. We know of nothing to equal this mixture for toothache, and we have seen it used a great deal.

Relieving Inflamed Feet.—The first thing to be done is to take off and throw away tight-fitting boots, which hurt the tender feet as much as if they were put into a press. Then take one pint of wheat bran, and one ounce of saleratus and put it

into a foot-bath, and add one gallon of hot water. When it has become cool enough, put in the feet, soak them for fifteen minutes, and the relief will be almost immediate. Repeat this every night for a week and the cure will be complete. The burning, prickly sensation is caused by the pores of the skin being closed up so tightly by the pressure of the boots that they cannot respire freely.

A simple, easy and effectual cure for stammering is said to be, simply at every syllable pronounced, to tap at the same time with the finger; by so doing the most inveterate stammerer will be surprised to find that he can pronounce quite fluently.

How to Cure a Cold —On the first day of taking a cold there is a very unpleasant sensation of chilliness. The moment you observe this, go to your room and stay there; keep it at such a temperature as will prevent this chilly feeling, even if it requires a hundred degrees of Fahrenheit. In addition put your feet in water, half leg deep, as hot as you can bear it, adding hotter water from time to time for a quarter of an hour, so that the water shall be hotter when you take your feet out than when you put them in; then dry them thoroughly, and put on warm thick woolen stockings, even if it be summer, for summer colds are the most dangerous; and for twenty-four hours eat not an atom of food, but drink as largely as you like of any kind of warm tea, and at the end of that time, if not sooner the cold will be effectually broken, without any medicine whatever.

How to Cure Swelled Feet and Ankles — Take plaintain leaves (which can be found in almost any grassy spot, and in our public parks);

wilt them by putting them separately between the hands; cover the swoolen parts with them, and keep in place by wrapping the limbs with rags or a towel on going to bed at night, or keep them on during the day if not obliged to be upon the feet. A cure will be speedily effected.

To Remove Freckles.—An ounce of alum, and an ounce of lemon juice, in a pint of rose-water.

The Sun Cholera Medicine.—More than twenty years ago, when it was found that prevention of cholera was easier than cure, a prescription drawn up by eminent doctors was published in the New York Sun, and it took the name of the Sun cholera medicine. No one who has this by him, and takes it in time, will ever have the cholera. We recommend it to all our friends. Even when no cholera is anticipated, it is an excellent remedy for ordinary summer complaints, colic, diarrhœa, dysentery, etc. Take equal parts of tincture of Cayenne pepper, tincture of opium, tincture of rhubarb, essence of peppermint, and spirits of camphor. Mix well. Dose, 15 to 30 drops in a little cold water, according to age and violence of symptoms, repeated every fifteen or twenty minutes until relief is obtained.

Worth Knowing.—Every little while we read of some one who has stuck a rusty nail in his foot or some other part of his person, and lockjaw has resulted therefrom. All such wounds can be healed without any fatal consequences following them. It is only to smoke such wound, or any wound or bruise that is inflamed, with burning wool or woollen cloth. Twenty minutes in the smoke will take the pain out of the worst case of inflammation arising from any wound we ever saw.

Deafness is often radically cured by putting shark's oil or glycerine into the ears for a few nights. It causes the ears to discharge, and thereby relieves the wax inside, that hardens there and is one of the principal causes of deafness. It is perfectly harmless.

The Following is an excellent and safe remedy for children's colds: Take onions, sliced thin, and sprinkle loaf sugar thickly over them; put in the oven and simmer until the juice is thoroughly mixed with the sugar. It makes a thick syrup, very nice. Give a teaspoonful as it seems to be needed, four or five times a day.

Ring Worm.—It has been discovered that ring worm is a vegetable parasite, as much a running vine as the mould in cheese. If not interrupted its pores develope under the skin extensively, accompanied by a burning irritation. Exclude from light and air by a patch, as both are as necessary for a ring worm growth as for an oak tree. Wash, too, with diluted nitric or carbolic acid. Kerosene oil is excellent.

Bite of a Mad Dog.—The disease which follows the bite of a mad-dog, is most terrible to witness, and most fatal in its effects. Professor Smith, of Baltimore has given a treatment for hydrophobia to the people, after a trial of fifty years, which treatment he has never known to fail if used within three days after the bite; no mad stone is more certain in its cure, and every family has it or can get it. Wash the wound with warm water, and take a piece of caustic potash, sharpen it to a point, and hold it half a minute in each part of the bite. Each mark of a tooth must be treated in this manner, poultice the wound for a day or so, then dress with salve, made of carbolic acid, 10 grains; fresh

lard two tablespoonfuls; mix. Apply several times a day until the wound is healed, this is a sure cure.

Another Good Cure for Mad Dog Bite.—Make a strong lye out of wood ashes; boil down to the consistency of molasses, using it with a sharp pointed stick. This is a very effectual remedy, and costs nothing.

Whooping-Cough.—The best and safest cure for whooping-cough is to slack two to four pounds of fresh lime in the patient's room three or four times daily, and keep a vessel on the stove with water and slaked lime in it. This will break up the worst case in from three to five days—*Dr. W. B. Killian.*

Weak Eyes.—To cure weak eyes take rose leaves, the more the better, and put them into a little water, then boil; after this strain it into a bottle, and cork it tight. You will find this liquid used as a bath, beneficial in removing redness and weakness.

Cure for Rattlesnake Bites and other Poisonous Creatures.—Indigo, 4 drams; gum camphor, 8 drams; alcohol, 8 ounces; mix and keep in close bottles. Apply to the wound, and the cure is soon completed.

Poison Antidotes.—For oil of vitril, or aquafortis, give large doses of magnesia and water, or equal parts of soft soap and water. For oxalic acid, give magnesia or chalk and water. For saltpetre, give an emetic of mustard and water, afterwards mucilages, and small doses of laudanum. For opium or laudanum, give an emetic of mustard, and use constant motion, and if possible, the stomach pump. For arsenic, doses of magnesia are useful, but pre-

pared hydrated oxide of iron is best. For insects taken into the stomach, drink a small quantity of vinegar and salt. For corrosive sublimate, give the whites of eggs mixed with water, until free vomiting takes place.

To Remove Pimples, Styes and Boils.—Touch them with spirits of turpentine every six hours. This should be applied to boils and styes in their first stages to effect a cure.

Chapped Hands are improved by using camphor balls made thus: Powdered camphor, 2 drachms; white wax, 1 ounce; spermaceti, 2 drachms; oil of almonds, 3 ounces. Mix, and mold into balls in gallipots.

Itch Ointment.—Unsalted butter, $\frac{1}{2}$ lb.; burgundy pitch, 1 oz.; spirits of turpentine, 1 oz.; red precipitate, pulverized, $\frac{3}{4}$ oz.; melt with pitch and add the butter, stirring well together; remove from the fire, and when a little cool add the spirits of turpentine, and lastly the precipitate, and stir until cold.

Inflammatory Rheumatism.—Sulphur and saltpetre, of each $\frac{1}{2}$ oz.; gumgnaïac, $\frac{1}{4}$ oz.; colchicum root or seed, and nutmeg, of each 1 dram. All to be pulverized and mixed with molasses, 1 oz. Dose—One teaspoonful every two hours until the bowels are moved freely; then three or four times daily until cured.

For Sick Headache.—Two teaspoonfuls of finely powdered charcoal, drank in half a tumbler of water, will give relief in less than fifteen minutes. In most cases sick headache is caused from too much acid on the stomach, and this is a sure cure.

Felon Cure.—Venice turpentine, 2 oz., and put into it one teaspoonful of water; stir with a rough

stick until it looks like candied honey; then spread on a cloth and tie it around the finger.

Mustard Draught.—Take a part of one egg and ground mustard enough to make a paste, then spread on a cloth and apply. This will never blister, and will answer the purpose.

Mexican Mustang Liniment.—Petroleum, olive oil and carbonate of ammonia, equal parts of each; then mix well together. Positively one of the best liniments used.

Cure for Cancer.—Take chloride of zinc, blood-root, pulverized, and flour, equal parts of each, make into a paste and apply; spread a common sticking-plaster, *much* larger than the cancer, cut out a piece from the center a *little* larger than the cancer, applying it, which exposes a narrow rim of healthy skin. Then apply the cancer plaster and keep it on twenty-four hours. Dress with slippery-elm poultice until suppuration takes place; then heal with any common salve.

Whooping Cough.—Use raw onions mashed. Put them in a muslin sack and apply to the throat and chest warm. Change them when dry, until the cough is loosend; give syrup of Ipecac every day, and keep the patient in an even temperature. A relapse may be treated in the same way.

For Strains and Swellings.—1 oz. of white vitriol; 1 oz. of green copperas; two teaspoonfuls of gun powder, pulverized all together, then dissolve in 1 qt. soft water. Apply it cold, rubbing in thoroughly. A splendid cure for reducing swellings.

Ointment for Salt Rheum.—Aquafortis, $\frac{1}{2}$ oz.; quick-silver, $\frac{1}{2}$ oz.; good, hard soap dissolved so as to mix readily, $\frac{1}{2}$ oz.; prepared chalk, $\frac{1}{2}$ oz.; mixed with $\frac{1}{2}$ lb. of lard; incorporate the above by put-

ting the aquafortis and quick-silver into an earthen vessel, and when done effervescing, mix with the other ingredients, putting the chalk in last; then add spirits or turpentine, $\frac{1}{4}$ tablespoonful.

Magnetic Ointment.—Lard, raisins cut in pieces, and fine-cut tobacco, equal weights; simmer well together, then strain and press out all from the drugs.

To Stop the Flow of Blood—Even from a severe wound, bind on the wound the fine dust of tea. After the flow has been staunched, laudanum may be applied with advantage.

To Remove Dandruff.—Wash the scalp frequently with bay rum and borax, which will raise a lather, and rinse off with cold water.

Bitters to Restore the Appetite.—To 1 pint of whisky add 1 tablespoonful of gension and $\frac{1}{2}$ tablespoonful of Percoon. and as much Uversa as you can hold in your fingers, mix all together, and take a dessert-spoonful three times daily before meals; this is splendid to give a good appetite, and to purify the blood.

Piles.—1 tablespoonful of fresh lard; one tablespoonful sulphur; one-half table-spoonful of Opium; alum the size of a grain of corn; mix the lard, alum and sulphur well together with a knife, and then add the opium, then apply this salve externally.

Perry Davis' Pain Killer.—Myrrh, 3 oz. gnaracum resin, one-half oz.; red pepper, oil and annis, each, one-half drachm; dilute alcohol, one pint; mix, and let stand seven days, and filter.

Cure for Croup.—A piece of lard as big as a butternut, rubbed up with sugar, divided into three parts and given at intervals of twenty minutes apart, will cure the croup.

Wash for Sore Eyes.—5 cents worth of sulphate of zinc, to 1 pint of rain water; take the zinc, put it on a shovel, hold the shovel over the fire until the zinc quits boiling, and then put it in the water, and put in a bottle; it is then ready for use. If it should sting the eye to much, put in a little more water.

To Cure Gangreen or Old Sores.—Take red percipity, 1 part, and two parts lard; mix well together, and apply to the affected parts; this is good for man or beast, and an excellent remedy, and will cure the most obstinate cases.

Indian Cure for Rheumatism and Neuralgia.—Beef gall, 2 tablespoonfuls; spirits of turpentine, 2 tablespoonfuls; oil of hemlock, 2 tablespoonfuls; oil of sassafras, 2 tablespoonfuls; laudanum, 2 tablespoonfuls; oil of amber, 2 tablespoonfuls; best alcohol, $\frac{1}{2}$ pint. Mix. Rub the parts affected 3 times a day. Internal remedy, 6 drops oil of sassafras 3 times a day taken in wine, half an hour before eating.

Cure for Corns—Bathe the corn well with hot water; then pare it closely, and annoint it well with British Oil; repeat three or four times, and a permanent cure will be effected.

Cure for Felon or Ring Round.—Wrap the part effected, with the lining of an egg shell; leave on as long as can be endured, then remove it by dampening the finger with water, and repeat the remedy two or three times; this is an excellent remedy.

Chillblaines, No. 2.—Mutton tallow and lard, of each one-eighth lb.; melt in an iron vessel, and add hydrated oxyde of iron, one oz., stirring constantly

with an iron spoon until the mass is of a uniform color; then let it cool and add Venice turpentine, one oz.; armenian bole, one-half ounce; oil of bergamot, one-half drachm; rub up the bole with a little olive oil before putting it in.

To Remove Freckles, No. 2.—Take 4 oz. lemon juice, or 1 drachm of powdered borax; add 2 drachms of sugar; stir together and let stand in a glass bottle a few days; then apply to the face occasionally.

For Sore Eyes, No. 2.—Sulphate of zinc, one and a half grains; tincture of opium, (laudanum), one-half drachm; rose water, one oz; mix, and put a drop or two in the eye two or three times daily.

Cure for Snake Bite, No. 2.—Take an egg and beat it well, then mix it with a tablespoonful of gunpowder, and a like quantity of salt; spread it on a white linen or cotton rag and apply it to the wound. Shortly after it is applied the back of the rag will show evidence of the poison by turning green. Apply a second plaster and continue to change the application until the discoloration ceases to be apparent. This was said to be an effectual remedy in Kentucky in early times in case of snake bite.

Vermifuge.—Castor oil, oil of worm seed, each 2 oz.; oil anise, 1 oz.; tincture of myrrh, 1 dram; oil turpentine, 20 minims; castor oil, 4 drops. Mix well together.

Russian Salve.—Yellow wax and sweet oil, of each equal parts; melt slowly, stirring carefully; while cooling stir in a small quantity of glycerine. This is an excellent salve.

Swelled Feet and Ankles.—Take plantain leaves, (which can be found in almost any grass spot, and in our public parks), wilt them by putting separ-

ately between the hands, cover the swollen parts with them, and keep in place by wrapping the limb with rags or a towel on going to bed at night, or keep them on during the day if not obliged to stand upon the feet. A cure will be speedily effected.

Sure Cure for Hydrophobia.—The dried root of elecampane; pulverize it, and measure $4\frac{1}{2}$ heaping tablespoons, and mix it with $1\frac{1}{2}$ teaspoons pulverized gumarabic; then divide into $4\frac{1}{2}$ equal parts, take one of these parts and steep it in one pint of milk until about half of the milk is evaporated; then strain, and drink in the morning. Abstain from eating for six hours after taking the dose. Repeat this for three mornings in succession, then skip three and so on until about 9 or 10 doses are taken. This is a positive cure.

To Cure the Hands from Pearing Off.—Ten cents worth of sugar of lead, dissolved in one pint of rain water, used as a wash, and before going to bed greese the hands with cocoanut butter, 1 oz.; it will last a long time; you will find this a good remedy.

Felon Ointment.—Take sweet oil, $\frac{1}{4}$ pt.; put a three-cent plug of tobacco in it until the tobacco is crisped; then squeeze it out and add red lead, $\frac{1}{2}$ oz.; then boil until black; when almost cold add pulverized camphor gum, $\frac{1}{2}$ oz.

Rheumatic Fluid.—Oils of hemlock and cedar, of each $\frac{1}{4}$ oz.; oils of organum and sassafras, each 1 oz.; aqua ammonia, $\frac{1}{2}$ oz.; capsicum, pulverized, $\frac{1}{2}$ oz.; spirits of turpentine and gumcamphor, each $\frac{1}{4}$ oz.; put into a quart bottle and fill it one-half full of alcohol.

Colic Cure for Persons and Horses.—Spirits of turpentine, $1\frac{1}{2}$ oz.; laudanum, $\frac{1}{2}$ oz.; mix. For per-

sons a dose would be from 1 to 2 teaspoonfuls in warm tea; children or weak persons less. For a horse double the dose, by putting it into a bottle with half a pint of warm water. If relief is not obtained in an hour, repeat the dose, adding half an ounce of the best powered aloes, well dissolved.

Corns and Warts.—Take a small piece of potash and let stand in the open air until slacked, then make in a paste with pulverized gumarabiac.

PAINTERS DEPARTMENT.

Rosewood Stain.—Alcohol, one-half gallon; camwood, one ounce; set in a warm place 24 hours; then add extract of logwood, one and one-half ounces; aquafortis, one-half ounce; when dissolved, it is ready for use.

Black Stain, Extra Fine for Wood.—Pour 4 quarts of boiling water over 2 ounces of powdered extract of logwood, and when the solution is effected, 2 drams of yellow chromate of potash, is added, and then well stirred; it is then ready for use. When rubbed on wood it produces a pure black; repeat with three or four applications till a deep black is produced, which acquires the highest beauty when polished or stained.

Violin Varnish.—Rectified spirits of wine, 1 quart; gum sandarach, 3 ounces; gum mastic, $1\frac{1}{2}$ ounces; turpentine varnish, $\frac{1}{4}$ pint; keep the above in a warm place till dissolved; strain and it is ready for use. Should it become too thick, add more turpentine varnish. This is a splendid varnish.

Copal Varnish.—Pale hard copal, 4 pounds; add hot and pale drying oil, 1 gallon; boil till it strings strongly, let cool a little, then thin with hot rectified oil of turpentine, $1\frac{1}{2}$ gallons, and strain at once into a can.

Varnish for Wood or Canvass.—Spirits of turpentine, $\frac{1}{2}$ gallon; asphaltum, $1\frac{1}{4}$ pounds; put them in an iron kettle which will fit upon a stove, and dissolve the gum by heat. When thoroughly dissolved and a little cool, add $\frac{1}{2}$ pint of copal varnish and boil linseed oil $\frac{1}{2}$ pint; when cold it is ready for use. If a more perfect black is desired, add a little lampblack.

Splendid Polish for Furniture.—Beeswax, $\frac{1}{2}$ lb.; soap, 2 oz.; pearlash, 1 oz.; soft water, $\frac{1}{2}$ gallon; boil all together until mixed; let cool, and it is ready for use. Apply with a soft rag, rubbing well.

Stains.—Yellow is produced by diluted nitric acid. Red, by a solution of dragon's blood in spirits of wine. Black, by a strong solution of nitric acid. Purple, by a solution of sal ammoniac in nitric acid. Green, by a solution of verdigris in nitric acid. Blue, by dipping in a hot solution of pearlash.

Brown Stain.—Put the work near the fire, that it may become warm; then take nitric acid, and with a feather pass it over the work till you find it changed to a fine brown, always keeping it near the fire until dry, when it may be polished or varnished.

To Imitate Mahogany.—Let the first coat of painting be white lead; the second, orange, and the last burnt umber or sienna, imitating the veins according to your taste.

To Stain Red.—Boil 1 lb. Brazil wood and 1 oz. pearlash in 1 gallon of water, and while hot brush over the work until of a proper color.

Cherry Stain.—Rain water, $1\frac{1}{2}$ qts.; annatto, 4 oz.; boil in a copper kettle till the annatto is dissolved; then put in a piece of potash, about half the size of a walnut; keep it on the fire about half an hour longer, and it is ready to bottle for use.

Black Walnut Stain.—Let the surface of the wood, after being thoroughly sandpapered, be washed with weak alum water and then treated with linseed oil, colored with burnt umber and red lead. The umber should be thoroughly burned, but the coloring matter not made too strong. It is better to have it rather light and renew the application when this has sufficiently dried. Go over the surface with a strong sizing of transparent glue; then use two coats of good Copal varnish.

Rosewood Stain.—4 oz. logwood, and 4 oz. redwood chips; boil in one gal. water; apply while hot, 3 or 4 coats, according to the color desired. For deeper color double the quantities of logwood, and redwood chips.

Oil for Furniture.—Acetic acid, 1 dram; oil of lavender, $\frac{1}{4}$ dram; rectified spirits, $\frac{1}{2}$ dram; linseed oil, 2 oz; mix, and it is ready for use.

Furniture Oil.—Linseed-oil, $\frac{1}{2}$ pint; alkanet root, 1 oz.; let it heat, and then strain it, then add lac varnish, $\frac{1}{2}$ oz.; this is very good.

Oil for Oiling Furniture.—Linseed oil, $\frac{1}{2}$ pint; rectified spirits, 1 oz.; butter of antimony 2 oz.; mix all together and it will be ready for use.

Green Stain.—Strong vinegar, $1\frac{1}{2}$ pints; best verdigris, 2 oz, ground fine; sap green, $\frac{1}{4}$ oz; mix together.

Transparent Varnish for Wood.—Best alcohol, $\frac{1}{2}$ gal.; nice gum shellac, $1\frac{1}{4}$ pounds; Place the bottle so it will keep a little warm, and it will dissolve quicker than if hot, or left cold.

Furniture Varnish.—Pale shellac, $2\frac{1}{2}$ pounds; mastic, $3\frac{1}{2}$ ounces; alcohol, 5 pints; dissolve cold stirring frequently. Very fine.

Black Varnish for Coaches.—Amber, 16 ounces; resin, 3 ounces; asphaltum, 3 ounces; drying linseed oil, $\frac{1}{2}$ pint; melt in an iron vessel; when partly cooled, add oil of turpentine warmed, $\frac{1}{2}$ pint, when it is ready for use.

Polish for Furniture.—Alcohol, 3 ounces; muriatic acid, 1 ounce; linseed oil, 16 ounce; good vinegar, 1 pint, and 3 ounces butter of antimony. Mix well together, putting in the vinegar last.

Imitation of Botany Bay Wood.—Boil $\frac{1}{4}$ pound of French berries (the unripe berries of *Rhamnus infectorius*) in 1 quart of water, till of a deep yellow and while boiling hot, give two or three coats to the work. If a deeper color is wished, give a coat of logwood decoction over the yellow, when almost dry form the grain with No. 8 black stain, used hot and when dry rust and varnish.

Dark Mahogany Color.—1st. Boil $\frac{1}{4}$ pound of madder and 1 ounce logwood chips, in a gallon of water, and brush well over while hot; when dry, go over the whole with pearlash-solution, 1 dram to the pint. 2d. Put 1 ounce dragon's blood, bruised into a pint of oil of turpentine; let the bottle stand in a warm place, shake frequently and when dissolved, steep the work in the mixture.

Crimson Stain for Violins.—Ground Brazil wood, $\frac{1}{2}$ pound; water, $1\frac{1}{2}$ quarts, cochineal, $\frac{1}{4}$ ounce; boil the Brazil with the water for half an hour, strain,

add the cochineal; boil gently for half an hour, when it will be fit for use. Should you prefer a scarlet tint, boil $\frac{1}{2}$ ounce of safron in a pint of water, and rub over the work before you stain it.

Black Stain for Wood.—Sulphuric acid, $\frac{1}{2}$ pint; rain water, 1 pint; brush over the wood and let it dry, when it will recieve a fine polish.

To Improve the Color of Stains.—Nitric acid, 1 oz.; muriatic acid, $\frac{1}{2}$ teaspoonful; grain tin, $\frac{1}{4}$ oz.; rain water, 2 oz; mix it at least 2 days before using and keep the bottle well corked.

Polishes.—Carver's Polish—White resin, 2 oz.; seed-lac, 2 oz.; spirits of wine, 1 pint; dissolve; it should be laid on warm, and avoid moisture and dampness when used.

French Polish—Gum shellac, 1 oz; gum arabic, $\frac{1}{4}$ oz.; gum copal, $\frac{1}{4}$ oz.; powder and sift through a piece of muslin, put them in a closely corked bottle with 1 pint spirits of wine, in a very warm situation, shaking every day until the gums are dissolved; then strain through muslin and cork for use.

Polish for Dark Colored Woods.—Seed-lac, 1 oz.; gum guaiacum, 2 drams; dragon's blood, 2 drams; gum mastic, 2 drams; put in a bottle with 1 pint spirits of wine, cork close, expose to moderate heat till the gums are dissolved; strain into a bottle for use, with $\frac{1}{4}$ gill of linseed oil; shake together.

Water Proof Polish.—Gum benjamin, 2 oz; gum sandarach, $\frac{1}{4}$ oz.; gum anima, $\frac{1}{4}$ oz.; spirits of wine, 1 pint; mix in a closely stopped bottle, and place either in a sand bath or in hot water till the gums are dissolved, then strain off the mixture, shake it up with a $\frac{1}{4}$ gill of the best clear poppy oil, and put it by for use.

Polish.—Finishing.—Gum shellac, 2 drams; gum benjamin, 2 drams; put into $\frac{1}{2}$ pint of best rectified spirits of wine in a bottle closely corked; keep in a warm place, shaking frequently until the gums are dissolved. When cold, shake up with it 2 teaspoonfuls of the best clear poppy oil.

DYEING DEPARTMENT.

GENERAL REMARKS.

Everything should be clean. The goods should be scoured in soap and the soap rinsed out. Dip them in water just before putting them into preparations, to prevent spotting. Soft water should be used, *sufficient to cover the goods well—this is always understood where quantity is not mentioned.* When goods are dyed, air, rinse well, and hang up to dry. Do not wring silk or merino dresses when scouring or dyeing them. If cotton goods are to be dyed a light color, they should first be bleached.

SILKS.

Black.—Make a weak dye as for black on woollens; work goods in bichromate of potash a little below boiling heat, then dip in the logwood in same way; if colored in blue vitriol, use about same heat.

Orange.—For one pound goods—annotto, 1 pound; soda 1 pound; repeat as desired.

Green.—VERY HANDSOME.—For one pound goods—yellow oak bark, eight ounces; boil one-half hour; turn off liquor from bark and add alum, six ounces; let stand until cold, while making this, color goods in blue dye-tub a light blue; dry and wash; dip in alum and bark dye. If it does not take well, warm the dye a little.

Purple.—For one pound goods. First obtain a light blue, by dipping in home-made dye-tub; then dry; dip in alum, four ounces; with water to cover when little warm. If color is not full enough add chemic.

Yellow.—For one pound goods—alum, three ounces; sugar of lead, three-forths ounces; immerse goods in solution over night; take out, drain, and make a new dye with fustic, one pound; dip until required color is obtained.

Crimson.—For one pound goods—alum, three ounces; dip at hand heat one hour; take out and drain while making new dye by boiling ten minutes, cochineal, three ounces, bruised nut-galls, two ounces, and cream tartar, one-fourth ounce, in one pail of water; when little cool begin to dip, raising heat to boil; dip one hour, wash and dry.

Sky Blue on Silk or Cotton.—VERY BEAUTIFUL.—Give goods as much color from a solution of blue vitriol, two ounces, to water, one gallon, as it will take up in dipping fifteen minutes, then run it through lime water. This will make a beautiful and durable sky blue.

Brown on Silk or Cotton.—VERY BEAUTIFUL.—After obtaining a blue color as above, run goods through a solution of prussiate of potash, one ounce, to water, one gallon.

Light Blue.—For cold water, one gallon, dissolve alum, one-half tablespoon, in hot water, one teacup, and add to it, then add chemic, one teaspoon at a time to obtain the desired color—the more chemic the darker the color.

An Excellent recipe for removing paint or grease spots from garments may be had by mixing four tablespoonfuls of alcohol with a tablespoonful of

salt. Shake the whole together, and apply with a sponge or brush.

To Remove Stains From Silk.—Salts of ammonia mixed with lime will take out the stains of wine from silk. Spirits of turpentine, alcohol and clear ammonia are all good to remove the stains from colored silks.

To Restore the Color of Silk.—When the color of silk has been destroyed by any strong acid, it may be restored by carefully wetting the spot with a strong soap lather, to which a little saleratus has been added. When the color has been taken out by fruit stains ammonia will restore it.

Varnish for Paste Board.—Marine glue, 2 parts; yellow gum lac, in scales, 1 part; dissolve in wood spirits. This varnish may be applied to paper, pasteboard, wood and metals; if thick it may be used for glueing wood.

To Clean Ostrich Feathers.—White or light-tinted ones can be laid on a plate, and scrubbed gently with a tooth-brush, in warm soap suds, then well shaken out and well dried either by the hot sun or a good fire. At first the feather will have a most discouraging appearance, and a novice is apt to think it perfectly spoiled. But after it is thoroughly dry, it should be carefully curled with a pen-knife or scissors blade, and it will recover all its former plummy softness.

Black on Wool.—For 5 lbs. of wool, bichromate of potash 2 oz.; ground argal, $1\frac{1}{2}$ oz.; boil together, and put in the wool; stir well, and let it remain in the dye 4 hours. Then take out the wool; rinse it slightly in clear water; then make a new dye, into which put logwood, $1\frac{3}{4}$ lbs.; boil one hour, and

add chamber lye, $\frac{1}{2}$ pint, and let the wool lie in it all night. Wash in clear water.

Scarlet with Cochineal.—For Yarn or Cloth.—For 2 lbs. of goods, cream of tartar, 1 oz.; cochineal, well pulverized, $\frac{1}{2}$ oz.; muriate of tin, 5 oz.; then boil up the dye, and enter the goods; work them briskly for 10 or 15 minutes, after which boil $1\frac{1}{2}$ hours, stirring the goods slowly while boiling; wash in clear water, and dry in the shade.

Orange.—For $2\frac{1}{2}$ lbs. goods, muriate of tin, 3 tablespoons; argal, 2 oz.; boil and dip 1 hour; then add to the dye fustic, $1\frac{1}{4}$ lbs.; boil 10 minutes and dip $\frac{1}{2}$ hour; and add again to the dye, madder, $\frac{1}{2}$ teacup; dip again $\frac{1}{2}$ hour. If a brighter color be preferred, use cochinal in place of madder; add in small quantities, until pleased, about 2 oz.

Lac Red—For $2\frac{1}{2}$ lbs. goods, argal, 5 oz.; boil a few minutes; then mix fine ground lac, $\frac{1}{2}$ lb., with muriate of tin, 3 lbs.; and let them stand 2 or 3 hours, then add half of the lac to the argal dye, and dip $\frac{1}{2}$ hour; then add the balance of the lac, and dip again 1 hour; keep the dye at a boiling heat, until the last half hour, when the dye may be cooled off.

Snuff Brown.—Dark for cloth or wool. For 10 pound goods, camwood, 2 pounds; boil it 15 minutes, then dip the goods for $\frac{3}{4}$ of an hour; take out the goods and add to the dye, fustic, 5 pounds; boil 10 minutes, and dip the goods $\frac{3}{4}$ hour; then add blue vitriol, 2 oz.; copperas, 8 oz.; dip again $\frac{1}{2}$ hour; if not dark enough, add more copperas.

Madder Red.—To 2 lbs. of goods, alum, 10 oz.; red, or cream of tartar, 2 oz.; put in the goods, and bring your kettle to a boil for $\frac{1}{2}$ an hour; then air them, and boil $\frac{1}{2}$ hour longer; then empty your

kettle, and fill with clean water; put in bran, $\frac{1}{2}$ bushel; make it milk-warm, and let it stand until the bran rises; skim off the bran, and put in madder, 1 lb.; put in your goods, and heat slowly until it boils and is done. Wash in a strong suds.

Dark Steel Mixed.—Black wool, it may be natural or colored, 5 pounds; white wool, $\frac{3}{4}$ pounds; mix evenly together, and it will be very nice.

Silver Drab—Light.—For 10 lbs. goods, alum, 2 small teaspoonfuls, and dogwood about the same amount; boil well together, then dip the goods 1 hour; if not dark enough, add, in equal quantities, alum and logwood until suited.

To Wash Woolen Goods.—To wash woolen goods nicely, to each pail of water used add one table-spoonful of ammonia, and one of beef-gall; wash out quickly, and rinse thoroughly in warm water, with a very little beef-gall added.

Wine Color.—For $2\frac{1}{2}$ lbs. goods, camwood, 1 lb.; boil 15 minutes, then dip the goods for $\frac{1}{2}$ hour; boil again, and dip $\frac{1}{2}$ hour; then darken with blue vitriol, $\frac{3}{4}$ oz.; if not dark enough, add copperas, $\frac{1}{4}$ oz.

Black.—For $2\frac{1}{2}$ pound goods. Sumach wood and bark together, $1\frac{1}{2}$ pounds; boil $\frac{1}{2}$ hour, and let the goods steep 12 hours; then dip them in lime water, $\frac{1}{2}$ hour; take out the goods and let them drip an hour; then add to the sumach liquor, copperas 4 oz.; then dip another hour; then run them through the tub of lime water again for 15 minutes, now take a new dye with logwood, $1\frac{1}{4}$ pounds, boil 1 hour and dip again 3 hours; now add bichromate of potash, 1 oz. to the logwood dye, and dip 1 hour. Wash the goods in clear cold water, and dry in the shade.

Blue on Cotton.—For 10 pounds of rags, copperas, 8 oz.; boil and dip 15 minutes; then dip in strong suds, and back to the dye 2 or 3 times; then make a dye with prussiate of potash, 2 oz.; oil of vitriol, 10 tablespoonfuls; boil $\frac{1}{2}$ hour, and rinse and dry.

Chemic Blue—Light.—Take water, 2 gal.; dissolve alum, 1 tablespoonful, in hot water, 2 teacups, and add to it, then add chemic, 2 teaspoonfuls at a time, to get the desired color, for a darker color, use more of the chemic.

White Beach Bark.—Slate on Woolen or Cotton.—Boil the bark in an iron kettle. Take out the bark when it has boiled sufficiently, then add enough copperas to set the dye. The more copperas you add, the darker it will become. This is splendid for stockings.

Sky Blue.—For 6 lbs. goods, blue vitriol, 8 oz.; boil a few minutes; dip the goods 3 hours, then put them through strong lime-water. Should you wish a pretty brown color, put the goods through a solution of prussiate of potash.

Stocking Yarn or Wool to Color.—Between a Blue and Purple.—For $2\frac{1}{2}$ lbs. of wool, bi-chromate of potash, $\frac{1}{2}$ oz.; alum, 1 oz.; dissolve them, and bring the water to a boil, putting in the wool, and boiling one hour; then throw away the dye, and make another dye with logwood chips, $\frac{1}{2}$ lb., or extract of logwood, $1\frac{1}{4}$ oz.; and boil one hour. This also works very pretty on silk. Should you use logwood chips, tie them up in a bag, and boil with the wool or other goods. To darken the shade, use more logwood.

Pink.—For 6 lbs of goods, alum, 6 oz.; boil, and dip the goods one hour; then add to the dye cream

of tartar 8 oz.; cochineal, well pulverized, 2 oz.; boil well, and dip the goods, while boiling, until the color suits.

Brown.—To dye woolen brown, steep in an infusion of green walnut peels.

Carpets, rolled up during the hot weather, can be kept free from moths by wrapping, here and there between the folds, pieces of flannel dipped in turpentine. This is a better plan than peppering, as the smell soon goes off when the carpet is laid down again, and the occupants of the room are not all seized with apparently an attack of influenza.

Blue.—For 4 lbs. of goods, alum, 10 oz.; cream of tartar, 6 oz.; boil the goods in this for one hour, then throw the goods into warm water, which has more or less of the extract of indigo in it, according to the depth of color desired, and boil again until it suits, adding more of the blue if needed.

Purple.—For $2\frac{1}{2}$ lbs. of goods, cream of tartar, 2 oz.; alum, 3 oz.; cochineal, well pulverized, 1 oz.; muriate of tin, $\frac{1}{4}$ teacupful. Boil the cream of tartar, alum, and tin, 15 minutes; then put in the cochineal, and boil 5 minutes; dip the goods 2 hours; then make a new dye with alum, 2 oz.; Brazil wood, 3 oz.; logwood, 7 oz.; muriate of tin, $\frac{1}{2}$ teacupful, with a little chemic.

FARM DEPARTMENT.

Cure for Foundered Horses.—One-half pint of linseed oil, 1 ounce of the oil of sassafras, mix, and drench the horse. Sometimes it is necessary to repeat the dose in a day or two.

Horse Colic.—One-half pint of whisky, 1 tablespoonful of soda; mix the two together, and drench with a bottle.

Blind Staggers.—Bleed in second bar by inserting a knife at least three times, then while bleeding, drench with the following: One-half pint whisky, 1 ounce laudanum, 1 tablespoonful turpentine, water and flour, to give the consistency of buttermilk. Rub from head to tail, and legs also, with spirits turpentine, and pour two or three drops in each ear.

Eye-Water for Cattle and Horses.—Alcohol, $\frac{1}{2}$ tablespoonful; extract of lead, $\frac{1}{2}$ teaspoonful; rain water, $\frac{1}{4}$ pint.

Cure for Chicken Cholera.—Dilute a small piece of bread in water, and then drop 3 drops of carbolic acid on the bread; then give to the affected fowl. Repeat the dose every other day, until two or three doses have been given. Sometimes one dose will be sufficient to effect a cure. Put 1 teaspoonful of carbolic acid in one or two gallons of water, for the fowls to drink from. Drinking from this water will cause slightly affected fowls to become healthy, and prevent them from taking the disease.

Remedy for Heaves.—Calcined magnesia, balsam of fir, balsam copaiba, of each, $\frac{1}{2}$ oz.; spirits of turpentine, 1 oz.; put them into $\frac{1}{2}$ pint best cider vinegar; give, for a dose, 1 tablespoonful in his feed once a day for a week; then every other day for two or three months. Wet his feed with brine. He will cough more at first, but looser and looser till cured.

Physic-Ball for Horses.—Barbadoes aloes, from 4 to 5 or 6 drachms (according to the animal's

strength); tartrate of potassa, $\frac{1}{2}$ drachm; ginger and Castile soap, each 1 drachm; oil of anise or peppermint, 10 drops; pulverize and make all into one ball, with thick gum solution. Feed by giving scalded bran instead of oats, for two days before giving the physic, and during its operation.

To Tame Horses.—Take finely grated horse castor, oil of rhodium and cummin; keep them in separate bottles well corked; put some of the oil of cummin on your hands, and approach the horse on windy side. He will then walk toward you, then rub some of the cummin on his nose, give him a little of the castor on food that he likes, then get 8 or 10 drops oil of rhodium on his tongue. You can then control him.

Ring Bone and Spavin Cure.—Venice turpentine, and Spanish flies, of each 2 oz.; enphorbi-um and aqua-ammonia, of each 1 oz.; red percipitate, $\frac{1}{2}$ oz.; corrosive sublimate, $\frac{1}{4}$ oz.; lard, $1\frac{1}{2}$ pounds. Pulverize all, and put into the lard; simmer slowly over coals, not scorching or burning; and pour off, free of sediment. For ring bones, cut off the hair, and rub the ointment well into the lumps once in 48 hours. For spavins, once in 24 hours for three mornings. Wash well previous to each application with suds, rubbing over the place with a smooth stick, to squeeze out a thick yellow matter.

Linament for Sweeny.—Alcohol, and spirits turpentine, of each 4 oz.; camphor, gum pulverized cantharides, and capsicum, of each $\frac{1}{2}$ oz.; oil of spike, $2\frac{1}{2}$ oz.; mix. Bathe this linament in with a hot iron, and a certain cure will follow.

Founder Cured.—Boil or steam oat straw for half an hour, then wrap it around the horse's leg

quite hot, cover up with wet woolen rags to keep in the steam; in 6 hours renew the application; take 1 gal. of blood from neck veins, and give 1 quart linseed oil.

Bruises and Strains on Horses.—1 oz. ether; hartshorn, 2 oz.; turpentine, 1 oz.; pint lard; mix, and rub the places affected.

Cure for Hog Cholera.—One part coal oil, and two parts lard, and simmer together on a stove. When cold, sprinkle over the hogs.

Staggers.—Give a mess four times a week, composed of bran, $\frac{1}{2}$ gal.; sulphur, $\frac{1}{2}$ tablespoonful; saltpetre, $\frac{1}{2}$ spoonful; boiling sassafras tea, 1 pint; assafoetida $\frac{1}{2}$ oz.; keep the horse from cold water 8 hours afterwards.

Bots in Horses.—Give the horse, first, 1 quart new milk, and 1 pint molasses; 15 minutes afterwards, give 1 quart very strong sage tea; 30 minutes after giving sage tea, give $3\frac{1}{2}$ pints (or enough to physic) of curriers' oil. The molassas and milk makes the bots let go their hold, the tea puckers them up, and the oil carries them completely away. It will cure the worst of cases.

Cough.—Dont feed musty hay; feed roots and laxative food; sprinkle human urine on the fodder, or cut up cedar boughs and mix with the grain; or boil a small quantity of flaxseed, and mix it in a wash of scalded bran, adding a few ounces of sugar, molasses or honey. Give lukewarm. Should the animal have signs of heavs, put a spoonful of ground ginger once a day in his feed, and have him drink freely of lime water.

Colic Cure.—Bleed freely at the horse's mouth; then take 1 pound raw cotton, wrap it around a coal of fire, so as to exclude the air; when it be-

gins to smoke, hold it under his nose till he becomes easy.

Scratches.—Shave the hair close, then wash the legs in strong soap-suds or urine, or wash with warm vinegar saturated with salt; afterwards rub all over the parts with hogs-lard,

To Cure Distemper.—Take 1 gallon of blood from the neck vein; then administer sassafras oil, 1 ounce. Certain and quick cure.

Cure for Foot Rot.—One poound blue vitriol, half pound of verdigris, one pint of linseed oil, and one quart of tar; the vitrol and verdigris to be pulverized fine. The oil and tar if allowed to dry on the feet, form a coating which aids to prevent the application from being washed away by moisture. The sheep should be kept out of water, manure, etc., untill the treatment has had time to produce its full effect.

Scratches or "Grease Heel."—(First stages. Sure cure.)—Glycerine, one-half pint; chloride of zinc, one-half ounce; water, six quarts; mix, apply a cloth wet with the above to the parts, and as warm apply another. Keep this up until all heat and inflammation has departed; if good results do not follow, it is because the work has not been thoroughly done. When, it has further advanced, and cracks and ulcerations are present, the above lotion is not strong enough, and the following must be substituted, and used in the same manner: Chloride of zinc, 1 ounce; creosote, 4 fluid ozs., strong solution of oak bark, one gallon. Mix.

Cure for Foot Rot, No. 2 in Sheep.—Mix 2 oz. of the best honey, 1 oz of burnt alum, reduced to powder, and $\frac{1}{4}$ pound of armenian bole; then add the train oil and alum.

Bone Spavins.—Corrosive sublimate, quicksilver and iodine, of each 1 oz.; rub the quicksilver and iodine together; then add the sublimate, rub enough lard to mix, rubbing them thoroughly. Shear off the hair the size of the bone enlargement; grease all around it, but not where the hair is shaved off; this prevents the action of the medicine, except on the spavin. Then rub in as much of the paste as will lie on a dime, each morning, for three or four mornings. In from 7 to 8 days the whole spavin will come out; then wash the wound with suds for an hour or so, to remove the poisonous effects of the paste; afterwards heal up the sore with any good healing salve; keeping the sore covered while it is healing.

Foot Rot In Sheep, No. 3.—The writer has twice cured a flock completely by 1 application of blue vitriol. In the first place each sheep had its feet pared for the purpose of exposing every part of the flesh in the least affected by the disease. The sheep was then placed in a tub of saturated solution of blue vitriol and hot water 3 or 4 inches deep, and held there by an assistant. A second was prepared in the same way and placed beside the first one in the water. When the third was ready, the first was taken out, and so on. Each stood at least 10 minutes in the solution which was kept constantly hot by dipping out and replenishing from the boiling kettle. The sheep were then placed in a dry situation, and they proved to be completely cured. When the foot is extensively disorganized and a powerful caustic is required to remove the dead structure, butter or chloride of antimony should be used.

Best Harness Oil in the World.—To each pint of neats-foot oil add one tablespoonful of lamp-

black, and two ounces of beeswax. This gives the harness an appearance of new leather.

How to Tell if a Horse is Blind.—Place the horse in a dark stable, and about twenty minutes after lead him out into the bright sunlight. If very slight or no contraction of the pupil takes place, the horse is totally blind. One eye may contract, and the other not, if only one eye is affected. The same test can be applied at night, by using a bright light, and placing it quite close to the eye. The above is an infallible test.

Ringbone.—Pulverized cantharides, oils of spike, organum, amber, cedar, Barbadoes tar, and Bristol oil, of each 1 oz.; oil of wormwood, $1\frac{1}{2}$ oz.; spirits turpentine, 2 oz.; common potash, $\frac{1}{4}$ oz.; nitric acid, 3 oz.; sulphuric acid, 2 oz.; lard, $1\frac{1}{2}$ lbs. Melt the lard, and slowly add the acids; stir well, and add the other articles, stirring til cold. Clip off the hair, and apply by cutting and heating in. In about three days, or when it has ceased running, wash off with soap suds, and apply again.

Physic for Cattle.—Barbadoes aloes from 2 to 3 drams; tartrate of potassa, one-half dram; ginger and cattle soap, each one dram; oil of anise, or peppermint, ten drops; pulverize and add glauber-salts, eight ounces; dissolve all in gruel and give as a drench.

"Grease Heal"—Lye made from wood ashes, and boil white oak bark in it till it is quite strong, both in lye and bark ooze; when it is cold, it is ready for use. Wash off the horse's legs with castile soap; when dry apply the above lye with a swab fastened on a long stick to keep cut of his reach, as the smart may cause the animal to kick. it is a sure cure, but it brings off the hair. To re-

store the hair after the cure is made, make and apply a salve by stewing elder bark in old bacon; then form the salve by adding a little resin, according to the amount of oil when stewed, or one-fourth pound resin to each pound of oil.

German Stable Linament.—Oil of turpentine, aqua ammonia, and oil of spike, each 1 ounce; sweet oil, and oil of amber, each three-fourth ounce; oil of organum, one-half ounce. Mix and it is ready for use. Very fine.

Gaps in Chickens.—I found week saft water a sure cure. I have not had a case for years, for I give my chickens a little salt in their feed or drink regularly Winter and summer. I think it good to keep them healthy which is better than waiting for them to get sick. Try as much as a corn grain in a teaspoon of water.

To Remove Lumps in Cow Teats.—Take poke-root and chop it up fine and beat into pumice; take a teacupful and put in a quart of meal, and feed it to a cow whose udder has lumss in it, and they are removed at once.

A Breeder of Poultry says: "Every spring I procure a quantity of cedar boughs and scatter them plentifully in and around the hen house. This is all that is necessary, as the odor of cedar keeps away the lice.

Lice on Fowls.—The surest way to destroy all lice on chickens or stock of any kind, is by using bisulphate of carbon. Hang to the roosts of fowls a few small bottles of the above, taking out the corks; leave open a ventalator or two and it will do no harm to stock of any kind. When all the stock is out close all ventalation, and in a few hours there will not be a louse left. It is cheap; 25 cts.

worth will clear a barn and chickens and everything else from lice in 3 days. A light must not be put very near as it is very inflammable.

Sloan's Horse Ointment—4 oz. rosin; 4 oz. bees-wax; honey 2 oz.; mix slowly and gently let come to a boil; then add nearly 1 pint, spirits of turpentine; remove and stir until cool. Nothing to equal it for horse flesh, cracked hoofs and human flesh.

Merchants Gargling Oil.—Take $2\frac{1}{2}$ gallons of linseed oil; $2\frac{1}{2}$ gallons spirits turpentine; 1 gallon western petroleum; 8 oz. liquor potass; 1 oz. sap green; stir all together, and it is ready to apply for use.

MISCELLANEOUS.

To Drive Away Flies.—Essence of pennyroyal freely sprinkled about a house will drive flies away and keep the house free from their visits.

For Making Cologne Water.—One quart of alcohol, quarter of an ounce of the oil of lavender, and a quarter of an ounce of the oil of rosemary.

Blue Ink.—Take soft Prussian blue and oxalic acid, in equal parts, powder them finely and then add soft water to make the desired shade of color.

Oil to Make Hair Curl.—Olive, 1 lb.; oil of ariganum, 1 drachm; oil of rosemary, $1\frac{1}{4}$ drachms.

Red Ink.—Carmine, 12 grains; spirits of ammonia, 3 ounces; heat and add powdered gum arabic, 18 grains, and stir till dissolved.

To prevent Grass growing in Walks.—Make a strong brine with common salt, and pour it hot on to the places where you wish to kill the grass.

To clean Paint from Stone.—Use a solution of sal soda or concentrated lye.

Sealing for Bottles, etc.—Glue mixed with glycerine is liquid while hot, but an elastic solid when cold, and makes a very good sealing for bottles, etc.

To prevent Rust in Stoves and Furnaces in Summer.—Put in some quicklime, and let it slack gradually, and it will entirely prevent rust on the inside of stoves and furnaces.

To preserve the Soles of Boots and Shoes.—One pair of uppers to boots and shoes will usually outwear two or three pairs of soles, and, as it usually costs one dollar to get a pair of boots half-soled, it will certainly pay to spend ten cents to fix the soles of your boots and shoes so that they will wear nearly twice as long, and, at the same time, be water-proof. Fill the soles of your boots and shoes with boiled linseed oil, working in all that you possibly can, and when the oil has hardened, the same as in paint, your boots will be water-proof, so far as the soles are concerned, and will wear nearly twice as long. Copal varnish is better still than linseed oil, but costs more. You must be very careful about getting linseed oil or varnish on the upper leather, for it will harden it so that it will crack. Use neat's-foot oil with a little bees-wax melted in it for your upper leather, and it will keep the leather soft and render it almost water-proof.

To keep milk sweet.—Milk can be kept sweet for some time by adding a little fine salt, or a little grated horse-radish, or a little carbonate of magnesia, any

one of which will retard the formation of lactic in the milk. Lactic acid forms very rapidly in milk when the temperature is from seventy to ninety degrees Fahrenheit.

To clean Coffee and Spice Mills.—Grind a tablespoonful of rice through the mill and it will be thoroughly cleaned and ready to grind a different spice.

Soda Water.—For the syrup take 2 lbs. sugar; 2 ounces tartaric acid; over this pour three pints boiling water. When cold, add whites of three eggs beaten stiff, one-half cup of flour stirred very smoothly in eggs, one-half ounce winter-green or other flavoring. Put two tablespoonfuls of this syrup in a glass, fill nearly full of water, then add one-half teaspoon of soda.

To protect Iron and Steele from Rust.—Take good fresh lard one pound; rosin four ounces; melt together, and stir well. Keep a cloth saturated with this mixture and rub it over any thing that you wish to protect from rust. The rosin prevents the lard from becoming rancid and coroding the metal, and it also makes a very adhesive mixture that is not easily washed off by rain.

To prevent Leakages.—Make a composition of four pounds of rosin, one pint boiled linseed oil, and two ounces of red lead. Apply it hot with a brush where the leaks occur around chimneys, dormer windows, etc., or for making water casks tight.

Coloring Candy.—Here is a coloring formula used by professional candy makers: one-half ounce cochineal, one-half ounce cream of tartar, one-half ounce alum, one-half ounce salts of tartar; have your druggist mix and pulverize them very finely; cork tight and keep in a dry place. When needed for use mix

a little into a paste with boiling water. This is very nice for coloring candies, cakes, creams, jellies, syrups of canned fruits, etc.

Hard Soap.—Six pounds sal soda; four gallons of water. Put this together and let it come to the boiling point; let it settle and pour off; add one-fourth of a pound of borax and six pounds of grease; then pour in dripping tins; let cool and cut in bars.

Paste which will adhere to any substance.—Sugar of lead, one and a half ounce; alum, one and a half ounce; gum arabic, two and a half ounces; wheat flour, or rye flour, one pound; water, sufficient quantity. Dissolve the gum arabic in two quarts of warm water; when cold, mix in the flour and add the sugar of lead and alum dissolved in water. Place the whole on the fire, and stir constantly till it shows signs of boiling. Let it cool, and the paste is made. If the paste is too thick, add boiling water to bring it to the proper consistency.

Chocolate Candy.—One cup of grated chocolate, one cup of milk, one cup of molasses, butter size of an egg, and one cup of sugar. Boil an hour.

Kalsomining.—Kalsomining for walls and ceilings, is made by boiling one-half pound of white glue in two gallons of water, and then adding five pounds of sifted Paris white and a very little bluing; then strain through coarse open cloth. It must be put on hot.

Cement for preventing Leaks about Chimneys.—Dry sand, one part; ashes, two parts; clay, dried and pulverized, three parts. All to be pulverized and mixed into a paste with linseed oil. Apply it when soft, and when it becomes hard, water will have no effect upon it.

Mortar.—The usual way of making mortar to use in laying up brick and stone walls, is to throw in some sand, some lime, and some water, and mix it up and use it right away; and if it happens to be good, all right; but if it happens to crumble to pieces, why, of course, the lime was poor, or the sand was not good. Four parts coarse sand and three parts fine sand, with one part quicklime, well mixed, with but little water, and allowed to stand for one or two days, makes a mortar which soon becomes as hard as the bricks it unites, and about as durable.

To remove Grease.—Aqua ammonia, 1 oz.; soft water, 1 pint; saltpetre, $\frac{1}{2}$ teaspoonful; shaving soap, cut in thin shavings, $\frac{1}{2}$ oz.; then mix altogether, let stand until the soap is dissolved and it is ready for use. There is nothing better for removing grease or dirt.

To clean Blankets.—When soiled they should be washed, and not scoured. Shake the dust from them, plunge them into plenty of hot soap-suds, let them lie till the hands can be borne in the water, wash quickly, rinse in new clean hot suds, shake thoroughly, stretch well, dry, and they will be as nice as new.

To wash black Calico.—After boiling your white clothes, take a portion of the boiling suds and strain, that there may be no lint in it, put in the garment, and let it boil five or ten minutes; then strain a part of the suds water, put the dress in and let it stand a few minutes. Rinse well, up and down, wring out, and rinse in cold water. Thus you have a clean dress without rubbing, and I have never known them to fade when washed in this way. Use no starch.

To purify Rooms.—Dissolve a few spoonfuls of chloride of lime in a saucer, and place in the apartment. Carbolic acid is also a good disinfectant.

To keep Cider sweet.—Put to a barrel of new cider a gill of white mustard seed. This will prevent it from becoming hard and sour for many months. If you wish to keep it from fermenting, put into the barrel a bag containing pulverized charcoal. Treated in this way it will not possess any intoxicating qualities, and improves by age. In bottling cider, put in each bottle three or four raisins to make it brisk.

To wash colored Linens.—A tablespoonful of black pepper put in the first water in which gray and buff linens are washed will keep them from spotting. It will also generally keep the colors of black or colored cambrics or muslins from running, and does not harden the water.

Fire Kindlings.—*From Corn Cobs, etc.*—Get a few gallons of heavy oil that runs from the still after the illuminating oil has been taken off, oil that contains a large amount of paraffine wax. It costs about ten cents a gallon at the refineries, and is quite solid in cold weather. Melt the oil in a kettle, and take a handful of cobs and dip them in oil about half way and throw them down and take more cobs. You can soon prepare kindlings for all winter. Parties living where they can not obtain such oil can make fire kindlings by taking twenty pounds of rosin and ten pounds of lard, or any grease, and melting together, and dipping cobs in as above.

Face Preparations.—Never use any preparation on your face that contains any of the preparations of lead, zinc, or bismuth, for they all paralyze the nerves of the skin, and in time give the skin the appearance of tanned leather. The oxide of bismuth is used a great deal in face preparations, for it produces a nice appearance at first, but it soon paralyzes the nerves of the skin so as to give the face a wrinkled

and leathery appearance, and the person is obliged to use more and more of it or some other preparation to cover up the defect. Pulverized starch, carbonate of magnesia, or powdered French chalk, are as harmless, perhaps, as any thing that is used on the face.

To destroy Insects on Plants.—Take one-fourth pound quassia chips and boil in one gallon of water, and when cold strain through cloth and apply the liquid to the plants with a watering-pot, or syringe. Tomato leaves boiled up, and the water applied to plants, will drive away insects. A weak solution of chloride of lime is sometimes used to destroy insects on plants. Put a small quantity of chloride of lime into water, stir well, and let it settle, and use the clear liquor.

Salting Butter.—One-half ounce of salt to the pound of butter is the rule for salting adopted by the makers of the most celebrated lump butter, which always sells for a fancy price.

To keep Oil Cloths looking well.—Wash them every two weeks with equal parts of skim milk and water. Never use any soap in washing oil cloths, and do not scrub them with a brush. Wash them with a soft flannel and use luke-warm water. Once in two or three months rub them with boiled linseed oil, using but little oil, and rub it well in with a rag and polish with a piece of old linen or cotton cloth. Oil cloths treated in this way will last for years, and look nice all the time.

White-wash. — *Very nice for Rooms.* — Whiting, 4 pounds; common glue, 2 ounces; stand glue in cold water over night; mix whiting with cold water; heat glue till dissolved, and pour it hot into the former. Make of consistency to apply with common white-wash brush.

To paint an old House.—Take 3 gallons water and 1 pint flaxseed; boil half an hour; take it off and add water enough to make four gallons; let it stand to settle; pour off the water in a pail, and put in enough of Spanish white to make it as thick as white-wash; then add $\frac{1}{2}$ pint linseed oil; stir it well, and apply with a brush. If the whiting does not mix readily, add more water. Flaxseed having the nature of oil is better than glue, and will not wash off as readily.

House Painting.—Lead ground in oil for inside work should be mixed as follows: To one quart of boiled linseed oil add one gill of Japan dryer and one pint of spirits of turpentine; mix together, and use for thinning your lead. When the lead is nearly thin enough to spread with a brush, you can add colors to make any shade you may desire.

For stone color, use raw umber.

For drabs, use burnt umber.

For straw color, use chrome yellow.

For cream color, use chrome yellow and venetian red.

For brown, use lamp-black and venetian red.

For pink, use vermilion.

For blue, use Prussian-blue.

For plum color, add a little vermilion to your blue.

For green, use chrome green.

For lead color, use lamp-black.

Burnt and raw sienna make warm neutral tints, ground work for graining, etc.

For outside painting do not use any spirits of turpentine, and use only about half the quantity of Japan dryer.

All of the above colors can be bought ground in oil, put up in small cans.

To kill Knots before Painting.—A mixture of glue size and red lead, or shellac dissolved in alcohol and

mixed with red lead, or gutta-percha dissolved in ether, will, either of them, make a good coating for knots, but will not stand the sunshine, which will draw the pitch through the paint. The best method is to cover the knot with oil size, and lay a leaf of silver over it.

To kill Grease Spots before Painting.—Wash over smoky or greasy parts with saltpetre, or very thin lime white-wash. If soap-suds are used, they must be washed off thoroughly, as they prevent the paint from drying hard.

Measuring Hay.—To find the number of tons in long or square stacks, the following is the rule: Multiply the length in yards by the width in yards, and that by half the height in yards, and divide the product by 15. In circular stacks, multiply the square of the circumference in yards by four times the height in yards, and divide by 100. The quotient will be the number of cubic yards in the stack. Then divide by 15 to get the number of tons.

For Removing Grease Spots from Carpets.—Use finely powdered clay, free from sand or grit, and perfectly dry; spread it over the grease spots, and rub it well with the hand. Next, tack a piece of muslin or paper over the clay, to prevent its being brushed off or scattered, and let it remain on, say one week. If the first application does not extract all the grease, make another. When a carpet has had hard service, and is dingy and faded, dust it as follows: Brush or sweep all the dust out; then, with a scrubbing brush, go over the entire surface, a small portion at a time, with a mixture consisting of ammonia, borax, ox-gall and water. Use a tablespoonful each of liquid ammonia, ox-gall and powdered borax to one quart of warm water. As fast as a portion of the carpet is

scrubbed, it should be wiped over with a clean woolen cloth. Of course, all grease spots ought to be removed before this scrubbing begins. Carpets treated in the manner described will appear clean and bright, almost as good as new.

Ribbons and Delicate Colored Silks should be put away for preservation in brown paper. The bleaching powder used in the manufacture of brown paper sometimes produces discoloration, provided the silk and paper become the least bit damp.

Flowers. — It is claimed that the color of flowers can be greatly improved and beautified by covering the earth in the pot one-fourth inch thick with pulverized charcoal. Try it. Mix a little sal soda or saltpetre in water, and it will preserve flowers much longer than when nothing but water is used. Flowers may be preserved for a long time by dipping them very carefully, as soon as gathered, in a perfectly clear solution of gum arabic water. Allow them to drain for five minutes, and arrange them in vases as you wish. The gum forms a very thin coating on the flowers and stems, and will preserve them for a long time.

Butter, Lard and Grease of that kind can be removed from silk and other goods by placing it between two pieces of blotting paper and pressing it with a warm flat-iron; also by rubbing in dry fullers' earth to absorb the grease, and brushing it out and repeating the process. Pulverized French chalk is also good for the same purpose.

Fruit Stains are often very easily removed, and at other times they are almost indelible. Lemon juice will often remove the stain. Tartaric acid is also good. Sometimes a weak solution of chloride of lime will be sufficient to remove the stain.

Bleaching Solution.—Take sal soda, three pounds; chloride of lime, one pound; water, one gallon. Boil the sal soda in the water ten or fifteen minutes, or till it is thoroughly dissolved; then remove from the fire and stir in the chloride of lime. When cool and thoroughly settled, turn off the clear liquor into a jug, cork tightly, and set in a cool place. Use for removing fruit stains, etc., from white linen and cotton goods.

To Wash Calico Without Fading.—Infuse 3 gills of salt in 4 quarts of water. Put in the calico while the solution is hot, and leave until the latter is cold. It is said that in this way the colors are rendered permanent and will not fade by subsequent washing.

To Wash Woolen Goods nicely, to each pail of water used add one tablespoonful of ammonia and one of beef-gall, wash out quickly and rinse thoroughly in warm water with a very little beef-gall added.

When the Color of Silk has been destroyed by any strong acid, it may be restored by carefully wetting the spot with a strong soap lather, to which a little saleratus has been added. When the color has been taken out by fruit stains ammonia will restore it.

Washing Colored Clothes.—Colored articles should be scalded; neither should they ever be allowed to freeze; for the colors might be irreparably injured. They should not be sprinkled and allowed to lie damp over night. They should not be ironed with a very hot iron. Pink and green colors will frequently change in color as soon as a hot iron is passed over them.

Reviving Kid Gloves.—To revive old kid gloves, make a thick mucilage by boiling a handful of flaxseed; add a little dissolved soap; then, when the mixture colors, with a piece of white flannel wipe the gloves,

previously fitted to the hand ; use only enough to take off the dirt without wetting through the glove.

Lace Curtains—Should never be ironed. Wash and starch them, using in the rinsing water a tablespoonful of powdered borax. This makes them very stiff. When wet spread on a sheet, either on the floor or bed, and pin down every two or three inches. Let them dry for several days and they will look as good as new.

To Whiten Old Flannel.—Make a suds of hard soap and soft water ; dissolve a teaspoonful of borax and put in the suds ; put the flannel in the suds and let it lie a few minutes, then wash and rinse ; have ready some cloths dipped in melted brimstone, and wound on sticks ; two will be sufficient ; put them in a candlestick, or anything to hold them in an upright position ; hang the flannel in a barrel, so that the smoke can come up through the middle and around it ; light the brimstone candles and set them in the bottom of the barrel and cover closely. If carefully done, they will come out nearly as nice as new.

The Right Way to Brush Velvet.—The art of removing lint, dust and light matter adhering to velvet consists in the proper mode of managing the brush. Take a hat-brush—not too soft, but having the bristles elastic, and returning at once to their original state after being pressed aside—hold firmly under the palm of the hand, in the direction of the arm, and with the bristles downward, and pressing them first into the substance of the velvet, then twist around the arm, hand, and brush together, as on an axis, without moving them backward or forward. The foreign matter will thus be drawn up and flirited out of the flock without injury to the substance of the velvet ; and the brush must be lifted and placed in a similar man-

ner over every part required to be brushed. By this means velvet will be improved, instead of deteriorated, and will last for years.

To Prevent Potatoes from Shriveling up in Spring and Summer.—Take the potatoes early in the spring before they begin to sprout, and put them into a tub or barrel, and pour boiling hot water on them, and let them stand till cold, then spread them away in a cool place. The hot water kills the eye, or germ of the potato, and prevents its sprouting and absorbing the substance of the potato. This method has been in use by a few persons for some years, but we believe this is the first time it has been published for the benefit of all.

To Prevent Moldiness.—Nearly all of the essential oils will prevent moldiness in books, etc. Oil of sassafras, oil of cloves, oil of lavender, oil of cedar, oil of peppermint, or almost any of the essential oils rubbed on the shelves of book-cases, in very small quantity, will prevent moldiness of books.

Cement for Stopping Cracks in Jars.—Take equal quantities of white lead and fine white sand, and as much boiled linseed oil as will make it of the consistency of putty; in a few weeks it will become as hard as stone.

Red Wash for Bricks.—To remove the green that gathers on bricks, pour over them boiling water in which any vegetables, not greasy, have been boiled. Repeat for a few days, and green will disappear. For the red wash, melt 1 ounce of glue in a gallon water; while hot add alum size of egg, $\frac{1}{2}$ pound Venetian red, 1 pound Spanish brown. Try it; if too light, add more red and brown. If too dark, water.

Moss on Roofs.—If moss is allowed to accumulate on shingled roofs, it will soon rot out the shingles, and, of course, spoil the roof. If every new-shingled roof was thoroughly whitewashed with whitewash made from fresh slaked lime, moss would not accumulate, and the roof would last many years longer for the trouble. When moss has accumulated, dust on plenty of fresh slaked lime on your roof just before a rain, and the moss will soon slide off.

Stove Cement.—Moisten fine iron filings with a strong water solution of salammoniac. A little sulphur is sometimes added, to make the cement harden quicker, but it is better without it.

To Mend Iron Pots.—Mix finely sifted lime with some white of an egg, till a thin kind of paste is formed, then add some iron filings. Apply this to the fracture, and the vessel will be found nearly as sound as ever.

A Cheap Mouse-Trap.—Take the bowl of a clean clay pipe and fill it with cheese; put it under the edge of a glass tumbler in such a manner that a slight touch will cause the tumbler to slip off—the bait and the mouse of course underneath. This arrangement will catch more mice than any other trap at the cost of one cent.

To Make Leather Varnish.—To 1 quart of strong alcohol add one-half pound of gum shellac, 1 oz. resin, and one-fourth oz. of camphor, set in a warm place with frequent stirring for several days, or until all dissolved; then add 2 oz. lamp black mixed with a little alcohol—and it is ready for use and as good as the best. If too thick, thin with alcohol.

A Cheap Filter.—For a cheap filter, to purify cistern water, place on the perforated bottom of a box a piece of flannel, and on this some coarsely-powdered char-

coal, then coarse river sand, and cover the whole with sandstone broken into very small pieces.

Never paper a wall over old paper and paste. Always scrape down thoroughly. Old paper can be got off by dampening with saleratus and water. Then go over all the cracks of the wall with plaster of Paris, and finally put on a wash of a weak solution of carbolic acid. The best paste is made out of rye flour, with two ounces of glue dissolved in each quart of paste; half an ounce of powdered borax improves the mixture.

To Clean Engravings.—Place the engraving on a smooth board with a sheet of clean paper between, damp the picture on both sides with a sponge and clean water; then soak it well with the following solution, applied with a clean sponge: Water, 1 pt., chloride of lime, 4 ozs., oxalic acid, 1 oz. This imparts a fine white appearance to colored prints, but it must not be applied to water colors in any case, as it will certainly destroy them.

How to Clean Wall Paper.—To clean wall paper take off the dust with a soft cloth. With a little flour and water make a lump of very stiff dough, and rub the wall gently downward, taking the length of the arm each stroke, and in this way go round the room. As the dough becomes dirty cut the soiled parts off. In the second round commence the stroke a little above where the last one ended, and be very careful not to cross the paper or to go up again. Ordinary papers cleaned in this way will look fresh and bright and almost as good as new. Some papers, however, and these most expensive ones, will not clean nicely; and in order to ascertain whether a paper can be cleaned nicely it is best to try it in some obscure corner where it will not be noticed if the result is unsatis-

factory. If there be any broken places in the wall, fill them up with a mixture of equal parts of plaster of paris and silver-sand, made into a paste with a little water; then cover the place with a little piece of paper like the rest, if it can be had.

To keep Butter in Summer.—Put the butter in a dish with some cool water and turn a large porous flower-pot over the butter. The evaporation will keep the butter cool and solid. If there is a wet cloth laid on the flower-pot it will be better.

Another very good way to keep butter fresh in the hottest weather is to make a strong salt brine and sink the butter under it by turning a porous pot, as above, over it. The writer has tasted butter kept this way 4 months of the warmest weather and it was sweet and fresh.

Acid Stains can generally be removed by the use of aqua ammonia. Chloroform will often restore the color where it has been destroyed by acids. Aqua ammonia will remove the stain of iodine from the skin or clothing.

To Remove Ink Stains from cloth, dip the stain into hot fat, lard or tallow, and when cold wash out in hot water, and it will usually remove the stain.

To Remove Stains, spots, and mildew from furniture. Take of 98 per cent. alcohol $\frac{1}{4}$ pt.; pulverized rosin and gum shellac, of each 1 dram. Let these cut in the alcohol; then add linseed oil, $\frac{1}{4}$ pint; shake well, and apply with a sponge, or cotton flannel, rubbing it well after the application, which gives a beautiful polish.

To take Stains from the Hands.—Wash the hands in soap and water, in which some pearlash is dissolved.

Sun Burn.—A cosmetic made from elder flowers, steeped in boiling water, and then suffered to cool, is excellent for sun burn.

Iron Rust Spots on cloth can be removed by rubbing on lemon juice, and putting the cloth in the sun to dry, and then rinse with clear water, and repeat the process if it is not all out.

To Drive Cockroaches and Insects from a Building.—Sprinkle chloride of lime into their holes and places of resort, and they will leave at once.

Hair Brushes that have become soft by long use can be stiffened by cleaning the bristle thoroughly with a little bicarbonate of soda and water, rinsing well, and then soaking the bristle in cold alum water for a few hours and then drying. It will make an old brush about as good as new.

Wet Boots can be rapidly and thoroughly dried by filling them at night with dry oats. The oats should be very dry, and then they will take up the moisture rapidly without hardening the leather.

To Clean Glass Bottles, Decanters, etc.—Put in a handful of fine sand, and use soap and warm water and shake it around thoroughly. It will have to be a very dirty bottle that you can not clean rapidly in this way.

Ice Cream.—1 pint of milk. Into a small portion, stir 2 tablespoons of flour, or if you have rich cream, only 1 tablespoon of flour. Put milk in rice-boiler. When it boils stir in flour. Strain; when cool, stir in cream whipped light. Sweeten with 1 cup sugar, flavor and freeze. Very nice.

Measuring Heaps.—If the heap be round, to find the grain bushels, square the diameter in feet, divide by four, and multiply by height. To find heaped bushels, as of apples &c., square diameter, divide by six, and multiply by height. If the heap is oblong, multiply length by breadth, and proceed as above.

Bug Poison.—Alcohol, one pint; gum camphor, two ounces; corrosive sublimate, one ounce; mix.

Insect Destroyer.—Hot alum water is the best insect destroyer known. Put the alum into hot water, and let it boil until it is dissolved; then apply the solution hot with a brush to all cracks, closets, bedsteads and other places where any insects are found. Ants, bedbugs, cockroaches and creeping things are killed by it, while there is no danger of poisoning the family or injuring the property.

To Prepare Glue for Ready Use.—To any quantity of glue, use alcohol, one part; water, two parts; or, use common whisky instead of alcohol and water, using the alcoholic mixture instead of water to prepare your glue. Put your glue and whisky into a bottle, cork it and set it aside for three or four days, shaking occasionally, when it will be ready for use without the aid of heat. Glue thus prepared will keep for years, and is ready to use at all times, unless it be in very cold weather, when it should be set in warm water before using. To obviate the difficulty of the stopper getting tight by the glue drying in the mouth of the bottle, soak your cork in hot tallow or paraffine wax for a short time, and when cold rub off all grease or wax and the glue will not adhere to the cork. A strong solution of isinglass made in the same way is an excellent cement for leather.

Gum Arabic Starch.—Take two ounces of white gum arabic powder, put it into a pitcher, and pour on it a pint or more of boiling water (according to the degree of strength you desire), and then, having covered it, let it set all night. In the morning pour it carefully from the dregs into a clean bottle, cork it, and keep it for use. A tablespoonful of gum water stirred into a pint of starch that has been made in the usual

manner, will give lawns (either white, black, or printed,) a look of newness, when nothing else can restore them after washing.

Red Ants and Black Ants are very troublesome in some sections of the country. On sandy soil especially red ants are a great pest, and about the best thing to drive them away is to sprinkle air slaked lime around their places of resort. To keep them out of sugar, tie a small piece of camphor in a cloth and put it in your sugar box or barrel, and they will leave at once.

To Examine the Bottom of a Well.—Take a looking-glass and place in such position as to reflect the light down the well.

Hair Invigorator.—Bay rum, 2 pints; alcohol, 1 pint; castor oil, 1 oz.; carb. ammonia, half-oz.; tinc. cantharides, 1 oz. Mix them well. This compound will promote the growth of the hair, and prevent it from falling out.

To Remove Mildew.—Take two ounces of chloride of lime, pour on it a quart of boiling water, then add 3 quarts of cold water; steep the linen 12 hours, when every spot will be extracted. This will be found to quite surpass the buttermilk and chalk receipt.

Carpets rolled up during the hot weather can be kept free from moths by wrapping here and there, between the folds, pieces of flannel dipped in turpentine; this is a better plan than peppering, as the smell soon goes off when the carpet is laid down again, and the inhabitants of the room are not all seized with apparently an attack of sudden influenza.

Preserving Eggs.—Dissolve four ounces of beeswax in eight ounces of warm olive oil; in this put the tip of the finger and annoint the egg all around. The oil will immediately be absorbed by the shell, and the pores filled up by the wax. If kept in

a cool place, the eggs, after two years, will be as good as if fresh laid.

Preserving Bouquets.—When you receive a bouquet, sprinkle it lightly with fresh water; then put it into a vessel containing some soapsuds, which nourish the roots and keep the flowers as good as new. Take the bouquet out of the suds every morning, and lay it sideways in fresh water, the stock entering first into the water; keep it there a minute or two, then take it out, and sprinkle the flowers lightly by the hand with pure water. Replace the bouquet in the soapsuds and the flowers will bloom as fresh as when gathered. The soapsuds need to be changed every third day. By observing these rules, a bouquet may be kept bright and beautiful for at least three months, and will last longer in a very passable state; but the attention to the fair but frail creatures, as directed above, must be strictly observed.

Invisible Cement.—Dissolve Russian Isinglass in hot alcohol, and it will stick firmly broken crockery or glass.

To get up Shirts equal to New, wash, blue and dry the bosom, collars and cuffs; make a starch with one tablespoonful of starch, one teaspoonful of clear, prepared gum, a lump of sugar and one pinch of salt; mix it with cold water and make it clear and of the proper consistency, and stir a wax candle round it once or twice; dip the articles in the starch, squeeze them dry, roll them out in a cloth ten minutes and then iron them. Collars and cuffs of linen are done up beautiful in this way.

Cream-Colored Spanish lace can be cleaned and made to look new by rubbing it in dry flour; rub as if you were washing in water. Then take it outdoors and shake all the flour out; if not perfectly clean, repeat

the rubbing in a little more clean flour. The flour must be very thoroughly shaken from the lace, or the result will be far from satisfactory. White knitted hoods can be cleaned in this way; babies' socks also if only slightly soiled,

To take Ink out of Linen.—Dip the ink spot in pure melted tallow, then wash out the tallow and the ink will come out with it. This is said to be unfailing.

To take Ink-Stains out of a Colored Table-Cover.—Dissolve a teaspoonful of oxalic acid in a teacupful of hot water and rub the stained part well with the solution.

To Clean Feathers from animal oil and disagreeable odor often noticed in them.—Make a lime water by mixing one pound of fresh slaked lime with three or four gallons of water, and let it stand twenty-four hours, and pour off the clear liquor for use. Put the feathers into a tub and pour on sufficient clear lime water to cover them. When they are thoroughly moistened they will sink down. Let them stand in the lime water two or three days, and then rinse the feathers in clear water and dry them. Sometimes a little chloride of lime is added to the lime water, and sometimes sal soda is used in place of lime water. When thoroughly dried, the feathers should be whipped or beaten till they are loose and nice. Old feathers are often cleaned in this way.

Wash for Kid Gloves.—1 quart deodorized benzine; 1 dr. sulphuric ether; 1 dr. chloroform; 2 dr. oil of wintergreen; 2 dr. alcohol. Mix all together and wash the gloves thoroughly and they will be as nice as when new.

To Remove Fruit Stains.—Wet the stains with javelle water before putting them into the wash. This will remove the stains entirely. You can buy the javelle water at any drug store.

For Cleaning White Kid Gloves.—Wash them in rose oil, let them dry, and they will be very nice.

Hard Soap No. 2.—5 pounds hard soap; 4 pounds sal-soda; 2 oz. borax; 1 oz. aqua ammonia; boil 15 minutes with 22 quarts water; to harden, add $\frac{1}{2}$ pound resin.

Very Good Soft Soap.—Mix 5 pounds potash in 5 gallons warm soft water; let stand over night; in the morning boil it, adding 3 pounds grease; then put all in a barrel, adding 15 gallons soft water.

To Destroy Insects from Bedsteads.—Corrosive sublimate (10 cents worth) dissolved in alcohol and apply with a brush once or twice a week will keep them away entirely. Use this carefully as it is poison, but you will find this a sure preventative.

Extract of Indigo or Chemic.—For good chemic or extract of Indigo, take of vitriol $\frac{1}{4}$ pound, and stir finely ground Indigo into it, 1 oz.; continue to stir it for $\frac{1}{2}$ hour; then cover over, and stir three or four times daily for two or three days, then put in a crumb of saleratus, and stir it up, and if it foams, put in more, and stir, and add saleratus as long as it foams. The saleratus neutralizes any excess of acid; then put into a glass vessel, and cork up tight. You will find it improves by standing.

Formula and Receipt for making fifteen pounds Soap.—Bar soap, 7 pounds; sal-soda, 2 pounds; lime, 1 pound; alum, 1 oz.; borax, 2 oz.; benzine, 1 oz.

Take 7 pounds of any kind of bar soap (the tougher it is the better), cut into thin slices, and put it in your kettle or pan; then take two pounds of sal-soda, one pound unslacked lime and put it in a tub or bucket and pour over it two gallons of boiling water (rain or soft water is preferable), stir this well and let it settle; then pour off the clear water or solution into the kettle

containing the soap; put it on the fire and let it remain there until the soap is all dissolved thoroughly; stir it occasionally, so it will not stick. Dissolve one ounce of alum and two ounces of borax in a little water. Stir the soap, and put in the alum and borax just as the soap is taken from the fire; let the soap cool a little, and then put in one ounce of benzine and stir well (keep your benzine away from fire as it is dangerous). When it gets perfectly cold the soap is hard and can be cut in any size bars.

Cologne Water.—Oils of rosemary and lemon, of each $\frac{1}{2}$ oz.; oils of bergamott and lavender, each $\frac{1}{4}$ oz.; oil cinnamon, 16 drops; oils of cloves and rose, each 30 drops; best deodorized alcohol, 5 quarts. Shake several times daily, for a week.

Hair Oil.—Castor oil, $3\frac{1}{4}$ pints; alcohol, $\frac{3}{4}$ pint; citronnella and lavender oil, each $\frac{1}{4}$ oz.

Shampoo Mixture for the Hair.—Soft water, 1 quart; sal-soda, 2 oz; cream tartar, $\frac{1}{2}$ oz; mix, and apply to the hair.

Oil of Roses.—Olive oil, $\frac{1}{2}$ pound; otto of roses, 25 drops; oil of rosemary, 17 drops; mix. Another,—roses (hardly opened), 6 oz.; olive oil, 8 oz.; beat them together in mortar; let them stand for a few days, then express the oil.

Camphor Ice.—Spermaceti, 3 oz.; gum camphor, $1\frac{1}{2}$ oz.; oil sweet almonds, 8 teaspoonfuls; heat on the stove, in an earthen dish, enough to dissolve it; excellent for chapped hands or lips.

Hard Soap.—6 pounds sal-soda; 4 gallon water. Put this together and let it come to the boiling point; let it settle and pour off; add $\frac{1}{4}$ pound borax and 6 pounds grease; then pour in dripping tins; let cool and cut in bars.

To drive away Rats.—The secret consists in scattering dry chloride of lime, all around their haunts and into their holes. Garlic, or dog's tongue (synglossum), or the head of a garfish, thrown about their holes, will also drive them away.

Excellent Crackers.—Butter, $\frac{1}{2}$ cup; salt $\frac{1}{2}$ teaspoon; flour, 1 quart. Rub thoroughly together with the hand, and wet up with water; beat well, and beat in flour to make quite brittle and hard; then pinch off pieces, and roll out each cracker by itself.

Transferring Pictures, etc.—If you desire to transfer pictures, from paper to wood, for re-engraving, soak the article in a saturated solution of alcohol, and white caustic potash, to soften the ink, then transfer to the block under roller pressure.

To Dye Leather Red, Blue, or Purple.—For *red* steep it in alum water, then pass it through a warm decoction of Brazil wood. *Purple*, steep the skins in alum water, then put it in a warm decoction of logwood. *Blue*, steep it in an indigo vat.

Whitewash—that will not rub off.—Mix up half a pailful of lime, and water, ready to put on the wall; then take $\frac{1}{4}$ pound of flour, mix it up with water, then pour on it boiling water, a sufficient quantity to thicken it; then pour it while hot into the whitewash. Stir all well together, and it is ready for use.

Cement for Seams in Roofs.—Take equal parts of white lead, and white sand, and as much oil as will make into the consistency of putty; it will in a few weeks become as hard as stone.

Jamaica Rum.—To 22 $\frac{1}{2}$ gals. New-England rum add 2 $\frac{1}{2}$ gals. Jamaica rum; 1 oz. butyric ether; $\frac{1}{4}$ oz. oil of caraway, cut with alcohol and color with sugar coloring.

Cement for Leather or Rubber.—Gutta-percha, $\frac{1}{2}$ pound; india rubber, 2 oz.; pitch, 1 oz.; shellac, $\frac{1}{2}$ oz.; oil, 1 oz. Melt and use hot.

To Destroy Moss on Trees.—White wash made of quick lime and wood ashes, equal parts; apply with a brush.

Paste for Razors Strop.—Rub a little sweet oil over the strop, then apply a little flour of emery evenly over the surface.

Liquorice Lozenges.—Extract of liquorice $\frac{1}{2}$ pound, powdered white sugar, 1 pound. Mix with mucilage made with rose water.

Scotch Butter Candy.—Take $\frac{1}{2}$ pound of sugar, $\frac{1}{2}$ pint of water, dissolve, and boil; when done add $\frac{1}{2}$ tablespoonful of butter and enough lemon juice and oil of lemon to flavor.

Blackberry Wine.—Mash the berries and pour 1 pint of boiling water to each half gallon; let the mixture stand 24 hours, stirring occasionally, then strain and measure into a keg, adding 1 pound sugar, and good rye whisky, $\frac{1}{2}$ pint, or best alcohol, $\frac{1}{4}$ pint, to each half gallon. Cork tight, and put away for use.

Tom and Jerry.— $2\frac{1}{2}$ lbs. sugar, 6 eggs, $\frac{1}{4}$ small glass of Jamaica rum, $\frac{3}{4}$ teaspoonful of ground cinnamon, $\frac{1}{4}$ teaspoonful of cloves, $\frac{1}{4}$ teaspoonful allspice. Beat the eggs to a stiff froth, and the yolks until they are as thin as water; then mix together, and add the spice and rum; thicken with sugar until it becomes like a light batter. To deal out, take a small bar glass, and to one tablespoonful of the above mixture add one wine-glass of brandy, and fill the glass with boiling water; grate a little nutmeg on top.

Peppermint, Rose or Hoarhound Candy.—Take $1\frac{1}{2}$ pounds of coarse brown sugar; add to it $1\frac{1}{2}$ teacupfuls

of water and set it over a slow fire for half an hour; add to it a little gum arabic, dissolved in hot water, to clear it; take off the scum, when any arises. When perfectly clear try it by putting a few drops in cold water—if done it will snap like glass. Flavor with essence of rose or peppermint, or finely powdered hoarhound. Pour it out in buttered paper.

Chocolate Drops.—To every half-pound of sugar, take $2\frac{1}{2}$ pts. good chocolate, pulverize it, and mix it into a paste with $\frac{1}{4}$ pint of water, and set over a slow fire; do not boil the paste too long, or it will granulate and be unfit for use.

Peppermint Drops.—Dissolve finely powdered sugar, with a little strong peppermint water, in a saucepan with a spout. When it has thoroughly dissolved, add an equal quantity of coarse-grained sugar, with a few drops of peppermint; stir all together for a few minutes, then drop the mixture on paper and dry it in the open air. Lemon, Rose, Vanilla, and other drops can be made in the same way. Citric and tartaric acid can be used.

Trappers' and Anglers' Secret.—For Game and Fish. A few drops of oil of anise, or oil rhodium, on any trapper's bait will entice any wild animal into the snare trap. India cockle, mixed with flour dough, and sprinkled on the surface of still water will intoxicate fish and render them insensible, when coming up to the surface the can be lifted into a tub of fresh water to revive them, when they may be used without fear.

To Prepare Cider for Winter Use.—To one barrel of cider, the same day it is made, take one gallon of milk, warm from the cow, add to the milk six oz. of common ground mustard, stir well together; then pour this mixture in the barrel of cider, and stir well

with a broom-stick, let it stand from five to seven days, or until the cider becomes perfectly clear, then rack it off, and put it into a clean sweet barrel that has been well smoked with brimstone inside before putting it into the barrel. This is excellent, for I have used it for over five years, and find it the best way for keeping cider there is.

Starch Polish.—White wax, $\frac{1}{2}$ oz.; spermaceti, 1 oz.; melt them together slowly and prepare your starch in the usual way. For 1 doz. pieces, put into the starch a piece of the polish the size of a pea, more or less, according to the amount of pieces you may have. Or thick gum solution.—(Made by pouring boiling water upon gum arabic.) One tablespoonful to a pint of starch, gives clothes a beautiful gloss.

Color for Boot and Shoe Edge.—Alcohol, $\frac{1}{2}$ pint; tincture of iron, $\frac{3}{4}$ oz.; extract logwood, $\frac{1}{2}$ oz.; pulverized nutgalls, $\frac{1}{2}$ oz.; soft water, $\frac{1}{4}$ pint; sweet oil, $\frac{1}{4}$ oz. Put all into the alcohol before adding the water. This is very fine.

Edge Blacking for Boots and Shoes, Harness, &c.—Soft water, 2 quarts; extract of logwood, $\frac{3}{4}$ oz.; gum arabic, 96 grains; bi-chromate of potash, 48 grains; prussiate of potash, 8 grains. Boil the extract in the water 2 minutes; remove from the fire, and stir in the others, and it is ready for use.

To Make the Hair Grow.—1 dr. oil of bay; $\frac{1}{2}$ pint of alcohol; mix this together; make $\frac{1}{2}$ gallon sage tea; dissolve a small lump borax, strain off the sage tea and mix all together. If there is not one-half gallon, put in more water. This is good to prevent the hair from coming out. For coloring whiskers, put in 5 cents worth oxide of iron; this is splendid.

To Mend Tinware.—Take a viol two-thirds full of muriatic acid, put into it all the chippings of sheet

zinc it will dissolve; then put in a crumb of sal ammoniac, and fill up with water. Wet the place to be mended with this liquid, put a piece of tin over the hole, and apply a spirit lamp, or candle, below it, which melts the solder on the tin and causes the tin to adhere.

Brunswick Black for Grates, &c.—Asphaltum, $2\frac{1}{2}$ pounds; melt and add boiled oil, 1 pound; spirits of turpentine, $\frac{1}{2}$ gallon; mix.

To Destroy the Effects of Acid on Clothes.—Dampen, as soon as possible after exposure to the acid, with spirits ammonia; it will kill the effect at once.

To Remove Grease Spots in Marble.—Saturate carbonate of magnesia, previously heated, to remove every trace of mechanically adhering humidity, (still better is freshly calcined, cold magnesia, the so-called magnesia usta) with sufficient pure benzine, that it imbibes without parting with an excess, which only must occur upon being pressed together. Throw a sufficient quantity of this matter upon the provoking grease spot, and rub it upon the place. Perform this operation several times, and the spot will have completely disappeared.

Black Varnish, for Coal Buckets.—Asphaltum, 2 pounds; lamp-black, $\frac{1}{2}$ pound; resin, 1 pound; spirits of turpentine, 2 quarts. Dissolve the asphaltum and resin in the turpentine; then rub up the lampblack with linseed oil, only sufficient to form a paste, and mix with the others. Use with a brush.

Fly Paper.—Coat paper with turpentine varnish, and oil it, to keep the varnish from drying.

Polish for Turners Work—Dissolve sandarach, 2 oz., in spirits of wine, 1 pint; next shave beeswax, 2 oz., and dissolve it in a sufficient quantity of spirits turpentine, to make it into a paste; add the former

mixture by degrees to it; then with a woolen cloth apply it to the work while it is in motion in the lathe, and with a soft linen rag polish it. It will appear as if highly varnished.

Oil Blacking—water-proof.—Camphene $\frac{1}{2}$ pint; add all the India-rubber, it will dissolve; Curriers oil, $\frac{1}{2}$ pint; tallows $3\frac{1}{2}$ pounds; lampblack, 1 oz. Mix well by heat.

Bookbinders Varnish.—Shellac, eight parts; gum benzoine, three parts; gum mastic, two parts; bruise and digest in alcohol, forty-eight parts; oil of lavender, one-half part. Or, digest shellac, four parts; gum mastic, two parts; gum dammen and white turpentine, of each, one part; with alcohol (95 per cent), twenty-eight parts.

Cement for Leather or Rubber Soles and Leather Belting.—Gutta-percha, $\frac{1}{2}$ pound; India rubber, 2 oz.; pitch, 1 oz.; shellac, $\frac{1}{2}$ oz.; oil, 1 oz.; melt, and use hot.

To Renew Black Cloth.—Bruised galls, $\frac{1}{2}$ pound; log-wood, 1 pound; green vitriol, $\frac{1}{4}$ pound; water, $2\frac{1}{2}$ qts. Boil about two hours, then strain and it is ready for use.

Cement for Broken Marble or Stone.—Gum arabic $\frac{1}{2}$ pound; make into a thick mucilage; add to it powdered plaster of Paris, $\frac{3}{4}$ pounds; sifted quick lime, $2\frac{1}{2}$ oz.; mix all together. Heat the marble before applying. This is a very powerful Cement.

Blue Color for Ceilings.—Boil for 3 hours 1 pound blue vitriol, and $\frac{1}{2}$ pound of the best whiting, in about 3 quarts water; stir it frequently while boiling, and also on taking it off the fire. When quite cold pour off the blue liquid, then mix the cake of color with 1 good size; use it with a brush the same manner as whitewash, for walls or ceilings.

To Kill Vermin on Plants or Animals.—Pour 1 gallon of boiling water on 1 pound tobacco leaves; strain it in twenty minutes. This is a sure cure.

Grafting Wax.—Rosin, 1 pound; bees-wax, 1 pound; with lard or tallow enough to soften, so it can be applied with the hand.

Renew old Orchards—early in the spring.—Plough the entire orchard, and enrich the whole soil with a good dressing of compost of manure, swamp-muck, and lime; scrape off the old bark with a sharp hoe; apply half a bushel of lime, and the same of ground charcoal round each tree. Then apply strong soap-suds on the trunks and limbs, as high as you can reach. When in full bloom, throw over them a lot of fine slacked lime, and you will have an abundance of fruit.

To Keep Milk from Souring.—Put into the milk a small quantity of carbonate of magnesia. The above will also sweeten sour milk.

To Destroy Moths or Millers from Bees.—Take a deep white plate, place it on the top of the hive, and fill it half-full of sweetened vinegar. This is a sure way to destroy them.

To Remove Walnut and Fruit Stains from the Fingers.—Dip them in strong tea, rubbing the nails with it with a nail brush; wash in warm water; the stains come out instantly.

Rose Water.—Put fresh gathered roses into a jar with some water; add twelve drops oil of vitrol, and in a short time the water will assume the color and scent of the roses.

Housekeepers should know that a small piece of paper or linen, moistened with spirits of turpentine, and put into a bureau or wardrobe, for a single day,

two or three times a year is a sufficient preservative against moths.

A Bit of Glue dissolved in skim-milk and water will restore old crape.

To Make Linen Collars and Cuffs Stiff and Bright.—Mix wheaten starch in cold water, dip in the articles, let them remain about ten minutes before ironing; they become glossy and stiff as new.

Paste that will Keep a Year.—Dissolve a teaspoonful of alum in a quart of warm water. When cold, stir in as much flour as will give it the consistency of thick cream, being particular to beat up all the lumps; stir in a little powdered rosin, and throw in half a dozen cloves, to give a pleasant odor. Have on the fire a teacupful of boiling water; pour the flour mixture into it, stirring well all the time. In a few minutes it will be of proper consistency. Pour it into an earthen or china vessel; let it cool; lay a cover on and put it in a cool place. When needed for use, take out a portion and soften it with warm water. Paste thus made will last twelve months. It is better than gum, as it does not gloss the paper, and can be written upon.

To Wash Book Muslins, &c.—The following recipe may be used for lawn, book muslin dresses, fichus, etc. Boil two quarts of bran in water for half an hour, let it cool, then strain it, and mix the liquor with the water in which the things are to be washed. They will only require rinsing, as the bran will stiffen them sufficiently. For colored muslins, rice water is very good, as it helps to preserve the color; but, although it makes white muslins clear, it sometimes gives them a yellow tinge. When used, it should previously be boiled in the proportion of one

pound of rice to one gallon of water. No soap is required.

To Clean Hair.—Take one ounce of borax and half an ounce of camphor, powdered fine, and dissolve in one quart of boiling water; when cool, the solution will be fit for use, and with it you should damp the hair frequently. This wash effectually cleanses, beautifies and strengthens the hair, preserves the color, and prevents it from falling. The camphor will, after being dissolved, form into lumps again, but that will be of no consequence, as the water will have been sufficiently impregnated.

Rice-Cement.—Which is made by mixing rice-flour intimately with cold water and then gently boiling it—forms a beautifully white preparation and dries nearly transparent; it is capable of bearing a very high polish, and is very durable; it is in every respect far superior to the common paste made with wheat flour or starch; it may be formed also into a plastic clay.

White Hands.—The best means to “whiten red hands” is to wear a pair of cosmetic gloves thus prepared: “Fresh eggs, two; oil of sweet almonds, two teaspoonfuls; rose-water, one ounce; tincture of benzine, thirty-six grains. First beat the eggs and oil together, and then add the rose-water and tincture. Well daub a pair of kid gloves with the mixture on the inside, and wear them during the night.

To Soften the Hands.—Half a pound of mutton tallow, one ounce of camphor gum, and one ounce glycerine; melt, and when thoroughly mixed, set away to cool. Rub the hands with this at night. It will render them white, smooth, and soft.

To Renew Gilt Frames.—Take the white of two or three eggs, and one ounce of soda, or chloride of pot-

ash; mix well. Clean the frames, then go over them with a soft brush dipped in the mixture, and they will appear equal to new.

Renew Old Oil Paintings.—The blackened lights of old pictures may be instantly restored to their original hue by touching them with dentoxide of hydrogen; diluted by six or seven times its weight of water. The part must be afterward washed with a clean sponge and water.

Old and faded daguerreotypes will often become as bright as new, if placed in a weak solution of evanide of potassium.

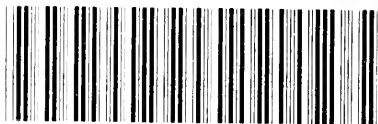
To Remove Grease Spots from Paper.—First dampen with a camels hair brush dipped in rectified spirits of turpentine, which, when dry, is completely removed, by applying a little alcohol.

Rubber Stamp Ink.—The following proportions give an excellent rubber stamp ink, which, while not drying up on the pad, will yet not readily smear when not impressed upon the paper; aniline red (violet), 90 grains; boiling distilled water, 1 ounce; glycerine, half a teaspoonful; treacle, half as much as glycerine. The crystals of the violet dye to be powdered and rubbed up with the boiling water, and the other ingredients stirred in.

In Drilling Glass stick a piece of stiff clay or putty on the part you wish to make the hole. Make a hole in the putty the size you want the hole, reaching to the glass of course. Into this hole pour a little molten lead, when, unless it is very thick glass, the piece will immediately drop out.



LIBRARY OF CONGRESS



0 014 184 252 3

Address all communications to JOHN G. VICKERS & CO.,
Publishers of Trade Secrets, Columbus, Ohio.